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HALF-YEARLY ABSTRACT  
OF THE  
MEDICAL SCIENCES.  
JULY—DECEMBER,  
1854.

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PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE.

THE  
HALF-YEARLY ABSTRACT  
OF THE  
MEDICAL SCIENCES:

BEING  
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL  
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED  
IN THE PRECEDING SIX MONTHS:  
TOGETHER WITH A  
SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND  
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.  
CICERO.

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HALF-YEARLY ABSTRACT  
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PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

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SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*How to prevent “the Lucifer-Match-Maker’s Disease.”*  
By Dr. FARADAY, D.C.L.

(*Faraday’s Lectures on the Non-Metallic Elements.* By Dr. Scoffern. London, 1853. 12mo.)

IN these lectures, Dr. Faraday mentions a fact which promises to make the manufacture of lucifer matches a perfectly harmless occupation. It is well known that many elementary bodies may be *allotropic*—may exist, that is to say, in various forms, and be endowed with very different properties. Oxygen, in the form of *ozone*, or oxygen in the state in which it is during combustion, is very much more active than the oxygen which is ordinarily met with in the atmosphere. Chlorine acquires more intense affinities when it has been tithonized by exposure to the sun’s rays or to spongy platinum. Sulphur may be in transparent or opaque crystals, or it may be a deep brown elastic substance, like india rubber. Carbon may be in the form of charcoal, plumbago, or diamond. Phosphorus is also *allotropic*—colourless and transparent, white and opaque, black and opaque, and dark red. Now the dark red form, which has been recently obtained by M. Schrötter, is far less *active* than the ordinary colourless and transparent form; but it is sufficiently active for all practical purposes. It does not

ignite without a fair amount of friction, and it may be even carried in the pocket with impunity ; and more than this, it is not poisonous. In a word, this allotropic phosphorus answers all the purposes to which ordinary phosphorus is applied, and there is great reason to hope that when this fact is recognised, the lucifer-match-maker's disease will be at an end.

ART. 2.—*Want of Phosphate of Lime an important cause of defective Nutrition.* By M. MOURIES.

(*Bull. de l'Academie Imperiale de Med.*, Jan., 1854.)

In this bulletin is a report by M. Bouchardat, on the researches of M. Mouries, respecting the value of phosphate of lime in nutrition, and the influence which the judicious employment of this salt is capable of exercising upon the mortality of children in large towns.

It is a comparatively short period since physiologists began to appreciate properly the importance of inorganic principles in the phenomena of life. The farther we penetrate into this complex problem, the greater is the importance attributed to bodies, the presence of which in the human organism was regarded as quite accidental.

Very dissimilar organic compounds may be substituted for each other in our diet without any disorder in the general harmony, but the inorganic principles can only be replaced by substances very closely analogous to them. Albumen, fibrin, and casein, and other more complex aliments, though differing in origin and composition, may fulfil the same physiological end, but it is different with inorganic principles. Lecanu has shown that iron is indispensable for the proper constitution of blood-globules ; chloride of sodium is of primary importance also as a constituent of the liquor sanguinis, and it is only as an exception that we find, in certain graminivora, this salt partially replaced by the phosphate of soda, or of potash. Liebig has shown that the chloride of potassium of the muscles cannot be replaced by chloride of sodium. Each inorganic constituent of the organism has, therefore, its definite and limited sphere of action, to which it is exclusively adapted.

Among the indispensable inorganic salts, the phosphate of lime holds an important rank. M. Mouries has devoted himself to the elucidation of its peculiar action. He deduces from his experiments the following conclusions :

1. Phosphate of lime plays a more important part in nutrition than has heretofore been believed. Independently of its necessity as a constituent of bone, this salt maintains that irritability without which there is no assimilation, and consequently no nutrition. Its insufficiency, therefore, produces death with all the symptoms of inanition, while its insufficiency in a less degree, produces a series of lymphatic diseases.

2. The food consumed in cities is deficient in this respect. Nurses' milk has, consequently, the same defect. The infant as well as the foetus suffers from the deprivation of this element so indispensable to its development and life. Hence one of the causes of the

increase in the number of still-born children, and of the mortality of infancy.

3. The addition of this salt, in combination with animal matter, to alimentary substances, obviates one cause of disease and death.

The following are the principal facts on which M. Mouries relies to establish these conclusions :

The blood of animals contains a constant proportion of earthy phosphates, which is independent of their ingesta. The pigeon ingests phosphate of lime slightly in excess, in the grain and calcareous gravels which it picks up; the horse swallows an excess, in its fodder; the dog procures a still greater excess from the bones on which he is fed; and yet the blood of the pigeon contains in 1000 grammes 1·20 of phosphate of lime; the horse, 0·5; the dog, 0·4. This result is not accidental; all birds whose blood has been analysed have 1·5 to 1·2 of phosphate of lime, while the proportion in the blood of the carnivora and herbivora varies from 0·9 to 0·4. The proportion thus regulated by nature, is modified by age and sex. The bull, cow, and calf have the same food, yet their blood contains respectively 0·5, 0·9, 0·8 of phosphate of lime.

The requisite proportion of alkaline phosphates varies, therefore, in different animals. A pigeon weighing one pound died at the end of ten months during which period he was fed daily on one ounce of wheat, with common water for a drink, by which rather more than a grain of phosphate of lime was ingested daily: on the other hand, a woman weighing 100 pounds enjoyed perfect health upon a diet which furnished her daily with 90 grains of phosphate of lime. Thus health in the one case, and death in the other, with relatively equal quantities of this salt.

We shall recur to this example to show how complex are the conditions of these experiments, and what reserve is necessary in drawing conclusions from them.

M. Mouries asserts, and the fact has already been noted by Chossat, that if the proportion of alkaline phosphates of the food is deficient, there ensues atony of the digestive organs, imperfect assimilation, and death. To prove that pigeons die from want of phosphate of lime, we may observe that their death is hastened if they are allowed only distilled water, while their lives may be preserved by adding earthy phosphates to their food.

M. Bouchardat observed that the grain on which MM. Mouries and Chossat fed their pigeons contained only traces of common salt. The birds therefore should be expected to suffer from the deprivation of this principle. M. Bouchardat accordingly made this experiment; he confined two pigeons, and fed them on dried grain. In two months the health of the female became impaired; she suffered from thirst and diarrhoea, and laid no more eggs. She was set at liberty. She flew immediately to a window-sill impregnated with alkaline chlorides and began to peck eagerly; there was a larger quantity of salts on the interior of the window-frame; the pigeon entered through the open window, and permitted herself to be re-captured, so imperious was her demand for these principles. Her health was re-established; in three days she laid another egg. It is wrong, therefore, to conclude

with M. Mouries that a deficiency of phosphates is the only cause of the symptoms he observed ; in this case, the absence of chlorides was the obvious cause.

M. Mouries has established, by interesting calculations, that grain furnishes a sufficient supply of phosphate of lime for the reparation of bone ; but not for other essential functions of the economy. From the curious fact that there is a constant proportion between the temperature of animals, and the amount of phosphate of lime contained in their blood, he deduces the principle that this salt keeps up animal irritability, without which nutrition is impossible. The following table must interest physiologists :

		Phosphate of Lime.	Temperature.
	Mouries.	Poggiale.	
Blood of the duck	.	1.50	42°5 cent.
” the hen	.	1.35	41°5 "
” the pigeon	.	1.20	40° "
” man	,	0.80	37°5 "
” horse	.	0.40	36°8 "
” frogs	.	a trace.	9° "

If these results are confirmed, it will appear that the ingestion of phosphate of lime is not only indispensable for the reparation of bone, but that it is connected with the function of calorification.

In the second portion of his memoir, M. Mouries, starting from the principle demonstrated by Chossat, verified by Boussingault, taught by Berard, and now admitted by all physiologists, that diet is defective which does not contain enough phosphate of lime to repair the waste which is continually going on in the economy, attempts to prove that the food commonly consumed in cities does not contain the quantity of this salt which is required by nurses and pregnant women.

He commences by calculating the quantity of phosphate of lime which ought to be ingested in the twenty-four hours, which he estimates from analyses of the excreta at 110 grains. He then attempts to show that this quantity is not contained in the food of nurses in cities. The urine of women in the country contains 90 grains of phosphate of lime in the twenty-four hours, while the amount of this salt in the urine of women in cities varies from 20 to 90 grains. M. Mouries has sought to confirm his hypothesis by direct proofs ; he has examined the food consumed in cities and shown that it exhibits a deficiency of one half in alkaline phosphates. He has examined the milk of nurses, and shown that in 18 healthy country women the proportion of earthy phosphates in the milk varied from 1.2 to 2.4 *per cent.*, while in the milk of ten Paris nurses the proportion varied from 0.5 to 0.9, and in seven others there was only a trace of phosphate of lime.

In the third portion of his essay M. Mouries adduces clinical facts in illustration of the advantage of supplying this deficiency of phosphate of lime in aliment. In 13 cases, in which the proportion of phosphate of lime averaged 0.7, 75 grains of this salt, with twice that quantity of albumen, was daily administered in soup ; in a week,

the proportion of earthy phosphate in the milk rose to 2·1. In 5 cases, pregnant women were subjected to the same treatment; the milk after delivery, contained 1·9 to 2·1 of phosphate of lime. Only 3 of the 18 children died.

These results, though insufficient to determine such a serious question, are yet very worthy of attention.

**ART. 3.—*The results of Re-vaccination in the Prussian Army during 1853. By Dr. HOPE.***

(*Gaz. Hebdomadaire*, May 12, 1854.)

In Prussia, each conscript is re-vaccinated when he enters upon his military duties, and in this way 44,652 men were re-vaccinated in 1853. Of this number 32,642 presented manifest vaccine cicatrices; 7643 had doubtful cicatrices; and 4367 had no traces of such cicatrices. The re-vaccination gave rise to the regular vaccine eruption in 28,329, and to an irregular eruption in 5933; it failed altogether in 7664. According to these figures, the operation succeeded in 69 out of 100 of the cases already vaccinated.

On comparing these results with those of former years, the numbers of successful re-vaccinations is seen to go on increasing year by year.

Years.	Numbers of successful Re-vaccinations.	Years.	Numbers of successful Re-vaccinations.
1833	33 in 100	1844	57 in 100
1834	27 "	1845	58 "
1835	42 "	1846	60 "
1836	46 "	1847	64 "
1837	49 "	1848	64 "
1838	50 "	1849	64 "
1839	51 "	1850	61 "
1840	54 "	1851	64 "
1841	57 "	1852	69 "
1842	58 "	1853	69 "
1843	57 "		

These figures speak for themselves.

During 1853, varioloid affections were very prevalent in the Prussian army. Their number was 138; 25 of chicken-pox, 106 of modified smallpox, and 7 of true smallpox. Of this number, re-vaccination had not been performed in 12 cases of chicken-pox, in 56 cases of modified smallpox, and in 3 cases of true smallpox. It had not been successful in 6 cases of chicken-pox, in 34 cases of modified smallpox, and in 2 cases of smallpox; and it had succeeded in 7 cases of chicken-pox, in 16 cases of modified smallpox, and in 2 cases of smallpox. One of the last two had been re-vaccinated 15 years previously; and one of the soldiers, who had not been re-vaccinated, had on his face the marks of smallpox which he had taken in his infancy.

## (B) ACUTE DISEASES.

ART. 4.—*The probabilities of Contagion in Fever.* By Dr. STOKES.

(*Medical Times and Gazette*, June 24, 1854.)

“ What I wish you to believe, gentlemen, is, as I have already stated, that our fever is both epidemic, as proceeding from general but unknown causes, and also contagious ; and no one can deny that causes, which would act in depressing the health and moral energy of a people, by rendering them less able to resist the effects of disease, would increase the general mortality. The influence of bad ventilation and overcrowding I need not here dwell on ; nor, on the other hand, need I occupy your time with more arguments to establish the truth of the doctrine of contagion. You will find in the writings of Dr. Christison and Dr. Graves, convincing evidence on these points ; and let me again refer to the great argument drawn from the liability to contract fever which has so long been observed among the medical practitioners of Ireland.

“ Before I leave this subject, I wish to recall to your memories the calculation made by Bishop Brinkley, the results of which were so strongly in favour of the communicability of typhus. They went to show, that an overwhelming number of chances would exist against the occurrence of a certain event, such as the sickening of eleven out of twelve of a family, in a particular district, if the sickening of one did not promote that of another, or, in other words, if the disease were not contagious. On this subject I have had the honour of receiving a letter from Dr. Paget, of Cambridge ; and I would not be doing justice to you, or the question generally, if I did not state the objection made by this eminent physician, as to the soundness of the conclusions in favour of contagion, which appear deducible from these calculations. Dr. Paget observes, that the form in which the problems are stated, excludes the consideration of all local influences, except contagion ; in this he is perfectly correct, for the element of local influences was not presented in the questions given to Dr. Brinkley for solution ; and for this reason, that the framer of the questions was not a believer in the effect of these local influences in causing fever. Yet we must agree with Dr. Paget, that had this element of local influences, besides contagion, been included, it must necessarily have diminished, by whatever was its real value, the overwhelming result which the calculations, as they now stand, gives in favour of contagion. But, even if we give a value to this cause which would diminish the numbers—say, even by 100,000,000—it would still leave the chances against the event, on the non-contagion theory, not less than 89,000,000 to 1,—a result more than amply sufficient to confirm the doctrine of the communicability of the disease. But even Dr. Paget himself admits, that, taking the case of the second calculation, if the consequence of these deductions on the score of local causes, were to reduce the probability of 300,000 to 1 to that of 1000 to 1, yet this latter probability would be sufficient to carry conviction to the mind of any candid person. He, however, observes, that we have unhappily no means of estimating

numerically the requisite deductions, no means of calculating the effect of noxious exhalations from decomposing organic substances, of bad food, and other assignable causes, which have been supposed capable of promoting the spread of fevers ; and he properly remarks, that Dr. Brinkley's results include, with contagion, the possible effects, not only of known, but also of all unknown causes, which may make an individual household more liable to fever than their neighbours. I entirely agree with Dr. Paget, that, as an argument for contagion, the results of Dr. Brinkley's calculations must be taken minus the effect of local influences ; and I feel indebted to him for having drawn my attention to this point, and to the importance of noticing it, when the numerical value of these results is considered. My opinion, however, as I have already stated to you, is that, in Ireland, local influences have not that great importance either as generators or promoters of fever which some believe them to have, and, consequently, the deductions to be made in favour of these causes would not greatly weaken the general results. We must believe, that the causes of fever, independent of mere contagion, are various in the extreme, that they are probably numerous and complicated, acting in combination rather than singly, and varying in their effects, not only in consequence of their own properties and combinations, but also as regards the condition of the individual in whom fever is developed. To this point I have already alluded in a former lecture, in speaking of the influence of the same contagion on individuals of different countries. And Dr. Paget, in observing that our pathology of fever is not so perfect as to assure us that there are no predisposing causes besides those which are commonly allowed, notices the comparative immunity of infants and persons above forty years of age from the typhoid fever with rose spots, and affections of Peyer's glands, and as indicating that the constitution of the individual is an element in the question." ("Clinical Lectures on Fever," No. 6.)

ART. 5.—*Epidemic changes in the local affections of Fever.*  
By Dr. STOKES.

(*Medical Times and Gazette*, July 22, 1854.

" In their seat, if not in their nature, these affections are observed to vary in different countries. On the Continent—at least in France, and in a large portion of Germany—the frequency, and, probably, the preponderance of the secondary disease of the intestines, is a matter that must be admitted. So remarkable, indeed, is the predominance of the tumefaction and ulceration of the mucous glands of the intestine in France, that Andral, in the first edition of the 'Clinique Médicale,' described fevers under the general head of diseases of the digestive system ; and yet Andral was no blind follower of Broussais. In Ireland, however, we do not find this remarkable preponderance of the secondary diseases of the digestive system ; but, when I state this to you, I wish you to understand and adopt this principle, that all statements as to the anatomical characters of fever, as it prevails here or elsewhere, are to be accepted only so far as they apply to the pre-

vailing epidemic. And, although it is true, that on comparing our typhus with the French typhoid fever, this difference becomes apparent, that the existence of follicular disease of the intestine is almost the rule, and its absence the exception in the latter affection, while, in the Irish typhus, this condition of the intestine is rare, you must, however, bear in mind, that in Ireland, and in our own time, we have had a great epidemic of what was certainly typhus fever, in which the condition of the intestine accurately represented that which is found to prevail on the Continent."

**ART. 6.—*Indications for treatment in Fever afforded by the state of the Heart.* By Dr. STOKES.**

(*Medical Times and Gazette*, May 20, 1854.)

In one of the Clinical Lectures on Fever, delivered by Dr. Stokes, in the Meath Hospital, Dublin, and reported by Dr. Lyons, are these very important and practical remarks:

"I have sometimes observed that students were under a misapprehension about the doctrines which we have long held in this hospital with respect to the condition of the heart as a guide for the use of wine. They have come to the erroneous opinion that we are only to give wine where we find the want of the first sound of the heart, and that we are not to give wine where the heart is acting well. This is a mistaken view of the matter. What we have established as to the state of the heart in connexion with the effect of stimulants, is simply this,—we have ascertained that the efficacy of stimulants is often directly as the debility of the heart. It has been also ascertained that the power of bearing stimulants, their effect upon the nervous system, their good effects on the general condition, are directly as the weakness of the heart. We may lay down as a rule, that there are three conditions of the heart to be looked at by the practical man in the treatment of fever. In one, we have an excited heart—a violently excited heart all through the case; and this heart may be excited and violent, although the symptoms be those of extreme adynamia, although the surface be cold, the breath cold, and the pulse so feeble that it cannot be discovered. Nay, the heart may act with great force for several days, and yet there be no pulse at the wrist. This is one case. In the next case, we find exactly an opposite condition, in which the systolic force of the heart is diminished. This is shown by loss of impulse of the heart, by diminution of the first sound, and, in certain cases, by extinction of the first sound of the heart while the second remains. This is a case which calls for wine, and in which you should give it: it is a case in which, in the vast majority of instances, wine will agree with the patient. There is a third set of cases in which the heart does not seem to be implicated at all in the course of the disease, in which, notwithstanding the existence of the most extraordinary group of symptoms affecting various organs, the heart, in the middle of the storm, seems to be in a state of calm and quiet. If we compare these three sets of cases with a view to prognosis, we may arrange them in this way. The case of excited heart all through, with feeble pulse and

with adynamia, is unquestionably the worst case. There is no worse symptom in fever than an excited heart. It is especially a bad symptom when, with that excitement, we find a feeble pulse. The next will be the case of sinking of the heart; and the most favorable case is that in which, as I said before, the heart seems to escape disease. But you are not to suppose, that because you have an excited heart you are not to give wine if the symptoms of the patient require it: and you are not to suppose that, because the heart is not affected at all, you are to withhold wine if the general symptoms of the patient require it. You are not to found your exhibition of wine or stimulants upon any one thing; you are to take the general state of the patient into consideration. What we have done is to discover an intelligible practical rule which will guide you in the use of wine in certain, I think in many, cases; but you are not to suppose that because this man has a clear first sound at his heart, therefore you are not to give wine. You are not to suppose that because the heart is safe you can do without wine."

ART. 7.—*The great importance of Nourishment in Fever.*  
By Dr. STOKES.

(*Medical Times and Gazette*, May 29, 1854.)

"I wish also strongly to impress on you the great importance of the use of other forms of nourishment in this disease; for we must not only keep up the nervous energy of the system by wine, but we must support nature by food. There is no mistake more fatal in fever than the withholding of food. I was early taught the importance of the use of careful nourishment in fever by my friend and colleague, Dr. Graves. I remember once, Dr. Graves, when speaking of the necessity of the use of nourishment in fever, made use of these words, —'If you are at a loss for an epitaph to be placed on my tomb, here is one for you, —*He fed fevers.*' In addition to the prejudices with which the inflammatory doctrine imbued so many minds, with respect to the use of food in fever, there was a new set of arguments raised against it, in consequence of the experiments of an American physician. I allude to the case observed by Dr. Beaumont, and so often quoted since. In this remarkable case, various medicinal substances and articles of food were introduced through an external fistula into the stomach, their effects being noted, as also the conditions of temperature, vascularity, &c. A set of results were subsequently published in connexion with the action of the stomach upon food. One of the results stated to have been thus obtained was, that the existence of the state of fever altogether suspended the process of digestion. Here was a statement which had the appearance of being the result of strict observation. It influenced a number of young men; but did it influence those who had once been in charge of a fever hospital? Not at all; because those men knew very well that, no matter what Beaumont might say about the stomach not digesting when the patient had fever, in thousands of cases patients in fever digested remarkably well, required food, and derived benefit from it. In a large number of cases of

typhus fever, the stomach has an excellent power of digestion ; and, I believe, if we were bold enough, we would find that many articles of food usually forbidden to fever patients might be given to them with safety. A curious incident was related to me which shows that the stomach in fever is capable of digesting even a rather coarse article of food. A lady who had been recently married was attacked with extremely severe petechial fever ; she was covered with dark-coloured maculæ, and the disease had run to about the twelfth or thirteenth day. She was attended by several eminent physicians. Her case was an extremely bad one, and her life was all but despaired of. She was violently delirious. Her husband had occasion to leave the house on some business. At the period of the dinner-hour of the family, the servants were cooking a rump of beef and cabbage, and the odour of it filled the house. In her delirium she called for some of the beef and cabbage ; she was then, you must understand, in severe fever, and covered with maculæ. Her sister, who was attending her, believing she was dying, thought it only right to indulge her, from the feeling that it was right to indulge the request of a dying person. She proceeded to the kitchen, and, as soon as the beef was boiled, cut a very large mess of beef and cabbage ; and this was brought up smoking hot to the lady's bedside, when she devoured it with great avidity. Shortly afterwards her husband came in, and was told what had happened. He became terrified, and sent for physicians in every direction. Four or five assembled ; time was pressing, and every one agreed that something should be done. At length the late Dr. Harvey, a practical physician of the very first class, arrived. He was laid hold of by the agonised husband, forced up-stairs, and his opinion earnestly requested. At that time the stomach-pump was not in fashion, but every one agreed that something decisive should be done, that an emetic should be given, or some extraordinary effort made to get this mess of beef and cabbage out of the lady's stomach. When Dr. Harvey went to the bedside, he found the patient in a tranquil sleep. He turned round, and when anxiously appealed to what should be done, he said—‘ You had better wait till she wakens ; let her sleep it out.’ She slept for four or five hours ; awoke wonderfully better, and on the following day was out of danger. I do not give you this case to induce you to feed your patients with salt beef and cabbage in fever ; but it is very important, as showing that in typhus fever, with maculæ, the stomach is capable not only of digesting such a coarse article of food as salt beef, but that even such food may have a good effect.’ (‘Clinical Lectures on Fever,’ No. 5.)

ART. 8.—*The non-inflammatory nature of the ordinary Bronchial Complication of Typhus.* By Dr. STOKES.

(*Medical Times and Gazette*, Aug. 19, 1854.)

“ You will commonly hear it said, that this or that patient in typhus has got bronchitis ; and, if we were to be guided by physical signs alone, such a statement would seem to be correct. But I wish you to believe that the essence of this affection is not bronchitis, but rather a special

condition of the air-passages, secondary to the typhus fever, the result either of the typhus deposit or of the vascularity with turgescence, of which I spoke in a former lecture. If bronchitis—that is to say, if inflammatory action supervenes—it must be considered either as reactive or specific. I am anxious to impress this upon you, because there are still many practitioners who hold that the physical signs of bronchitis are sufficient to establish the existence of inflammation. Now, I do not know any characteristic difference between the physical signs which may occur in ordinary idiopathic bronchitis and those which present themselves in typhus when the air-tubes are engaged. In both you have sonorous, sibilant, mucous, and crepitating râles; and yet the two diseases are pathologically distinct. Observe, that whatever will diminish the calibre of the tubes, whether it be deposit, typhoid congestion, or true inflammation, will give râle; whatever causes secretion, whether it be true inflammation, or something the very opposite of inflammation, will give you râle. We have, as I said before, in typhus, the physical signs which are observed in true bronchitis; but beware how, in any given case of fever, you conclude from their presence that the patient has true bronchitis. In certain cases there may be re-active irritation; but never forget that the typhoid disease alone, without any inflammation whatever, is competent to produce all the signs of bronchitis. Why do I urge this so much on you? Because I wish to avail myself of every opportunity of removing from your minds the erroneous doctrines of inflammation which have been so long in vogue. We are greatly influenced by names; and though I do not suppose that there are many who would treat a case of the bronchial affection in typhus with the same reducing measures which they would employ in the idiopathic disease, yet I am sure that the idea of these signs proceeding from inflammation makes many of us who have not yet unlearned our early teachings, timid in the use of stimulants.

"We find that this bronchial disease runs a course exactly analogous to that of the other secondary affections of typhus. It comes on insidiously, or, as I said before, silently; it gradually advances to its maximum, and sometimes increases to that degree that the patient dies by asphyxia. This is often the case when the disease has not been recognised at an early period. It is in almost all cases preceded by the symptoms of typhus for several days. I think in the best-marked cases it first shows itself about the fourth or fifth day of the disease; but it may supervene at any period of the case. It subsides spontaneously. You will have abundant opportunities of observing the following curious circumstance in the subsidence of this disease, either when the affection runs its natural course, or when it has been necessary to treat it specially. In the true idiopathic bronchitis, when a patient is placed under treatment, we observe the disappearance of the râles to be gradual; they are less intense and less complicated day by day; and this goes on probably for a week or ten days, or it may be a fortnight, before the last shade of râle disappears. In the typhus affection, on the contrary, you will often observe that the most extensive, intense, and complicated râles disappear as if by enchantment, leaving the respiratory murmur perfectly pure. This sudden disappearance of the

physical signs is only an argument among many to show their non-inflammatory origin. Nothing can be more remarkable than this ; it seems analogous to the sudden disappearance of the eruption of scarlatina from the skin. You may often see this eruption lasting for three or four days, and then suddenly disappearing, leaving the skin white and pure. Consider the case of the lung in the same way, and in place of the scarlatina eruption, take the secondary bronchial disease or eruption, if you will, and you can understand the occurrence of a similar change. Mind, I do not say this happens in all cases ; and I suppose that for its occurrence it is necessary that there shall have been little, if any, reactive irritation. And, as I said before, we see it in cases not only where the disease has been little, if at all, interfered with by treatment, but in others in which we have used such remedies as dry cupping, counter-irritation, and various stimulant medicines. Here the practitioner is often surprised at the rapid and complete success of his treatment, and may take credit to himself for bringing about a change which was to a great degree, at all events, induced by the operation of the law of periodicity.

"In the next place, we find that the best treatment in such cases is the stimulant. The mere circumstance of a patient having or presenting the most intense signs of bronchitis in typhus fever does not by any means warrant us in bleeding him, in reducing him, in exhibiting tartar emetic, or in withholding wine. Nothing of the kind ; the best treatment for such cases is the free use of wine, of ammonia, turpentine, bark, and such measures.

"Another argument is drawn from this interesting fact, that in a large number of cases of softened heart in typhus, we find a combination with the bronchial disease, and it is quite fair to conclude, that the conditions of the lung and heart in these cases are similar. The practical conclusion, then, to be drawn is, that the physical signs of bronchitis in a case of maculated typhus fever should not make you conclude that the patient had bronchial inflammation ; and therefore you should not treat the case as such.

"There is a remarkable case of fever which is not at all uncommon in this country, in which we have an alternating disease, as it were, between the abdominal and the pulmonary organs in typhus fever. This is a very bad form of fever—one of the worst. We find that to-day, we shall say, the chest is greatly loaded, that you get no good respiratory murmur ; there are most intense râles, and all the symptoms of extensive disease of the lung. At this time, the belly is soft ; it is not tender on pressure ; and there is no diarrhœa. Things go on for two or three days, when we find the belly to be swollen, tympanitic, tender on pressure ; there is diarrhœa ; and on applying the stethoscope to the chest we find it comparatively free, and the râles either gone or almost altogether gone." ('Cl. Lectures on Fever,' No. 8.)

ART. 9.—*The relative frequency of Chest and Head Symptoms in Fever.* By Dr. STOKES.

(*Medical Times and Gazette*, July 22, 1854.)

“With respect to the question of the comparative frequency and importance of the pulmonary as contrasted with the nervous symptoms in fever, as it affects the lower and upper classes in this country, my decided impression is, that taking the experience of the last twenty-five years, the secondary bronchial, or, to speak more generally, the pulmonary complications are much more frequent and dangerous in hospital than in private practice. It is not easy to explain why this should be so, but certainly we find a greater preponderance of nervous symptoms in the typhus fever, as it affects the upper classes of society, than in cases of the disease as we meet with it in hospital; while in hospital practice the nervous symptoms, though we cannot say that they are absent, seldom require any very special interference on the part of the practitioner. No doubt we meet with coma and subsultus tendinum occasionally, but that predominance of nervous symptoms in the early periods of typhus, which is so common in the upper classes of society, is but rarely seen in our wards; and if you will only reflect on the simple fact, that we so rarely have occasion to shave the head among our hospital patients, you will fully see the truth of what we say. Remember, too, how many cases we have had in which, while all the symptoms of typhus—such as prostration, weakness of the heart, eruptions of maculae and petechiæ, and well-marked secondary diseases of the mucous membrane of the intestines—were present, while the patients' minds remained quite unclouded, and while no symptom occurred calling for any special measures directed to the head. The typhus of Ireland, then, is not characterised, as Dr. Lombard has described it, by a preponderance of cephalic symptoms, at least when it occurs in that class from which he supposes the best specimens of the disease to be drawn. He is as incorrect in his statements about the predominance of cephalic symptoms as when he says that the absence of follicular ulcerations of the intestines is a distinctive mark of Irish typhus.

“In the typhus fever of the upper classes in this country the nervous symptoms are generally much more aggravated and developed at an earlier period; and it may be that this preponderance of the nervous symptoms, this tendency to affections of the brain in one class, even though these affections be principally neurotic, is a cause of the comparative exemption of such cases from the secondary bronchial disease. You will find as you advance in the study of general pathology, plenty of examples in which diseases of structure or of deposition are suspended or replaced by purely nervous affections. Explain it as we will, the general proposition appears true, that the nervous symptoms, comparatively speaking, are but slightly developed in the fever of the lower classes, while those indicative of nervous disease are much more prominent; and conversely that in the upper ranks symptoms indicative of irritation of the mucous surfaces are less developed, while the nervous symptoms are severe; and this, perhaps, may throw some

light upon the doctrine which has been long held by many, that the mortality of fever is greater in proportion as we ascend in the scale of society." ('Clinical Lectures on Fever,' No. 7.)

ART. 10.—*Quickness of Pulse after Fever.* By Dr. STOKES.

(*Medical Times and Gazette*, Oct. 14, 1854.)

"There is a case in the small fever ward to which I would wish to direct your attention. Although the patient has convalesced after a long fever, and is now gaining flesh and strength, we have found that the pulse continues rapid. Now, this is a circumstance which must always excite suspicion. In this patient, the signs of abdominal and pulmonary lesion have disappeared, as well as the characteristic expression of what may be termed the condition or state of fever,—yet, we find that his pulse does not correspond with the signs of improvement in all the other functions. It was suggested by Laennec, that the rapidity of pulse in patients after fever might depend on softening of the heart; but we shall see by-and-by, that the true typhous softening of the heart, so far from inducing rapidity of pulse during convalescence, has much more frequently the effect of making it slow; not only slow as considered with reference to the condition of health, but actually falling below the ordinary standard. \* \* \*

"These cases of quickness of pulse are of two kinds. In one class the pulse has never lost the rapidity it attained during the fever; or it has, perhaps, come down fifteen or twenty beats in the minute, and its rate then remains stationary. In the other cases the pulse, which had become quiet, rises to 100 or 120, or even higher, and remains at that rate for days together, without our being able to detect any cause for this increased rapidity. This, I think, is the worst case of the two; at least, it appears more often to indicate a new pathological change.

"The local diseases which have been found most frequently to attend this condition are of two kinds; one of them is tuberculosis—the deposition of tubercles in the lungs and other parts; the other is the existence of a secondary re-active inflammation in the mucous glands of the intestines. To this subject Dr. Cheyne long ago drew attention, in speaking of imperfect convalescence in typhus fever; and he gives several cases in the Report of the Hardwicke and Whitworth Hospitals, in which patients had recovered well from typhus fever; had, to all appearance, regained a certain degree of strength; had regained their appetite: but they showed no disposition to leave their beds; the pulse gradually got quicker and quicker; the belly swelled; diarrhoea came on; and the patients died with symptoms of disease of the intestinal canal. Upon dissection, extensive ulceration of the mucous glands was found in the intestine. These are the two most common of the local diseases which you should suspect when you have a patient who has gone through a long fever with the pulse continuing or becoming very quick.

"But now suppose that you examine such a patient with great care.

You percuss his chest; you examine the state of his respiration in every way, and you cannot satisfy yourself that there is any disease in his lung; and you will recollect what I mentioned to you at our last lecture, that in most cases of this tuberculosis after typhus there is great constitutional suffering. Well, you may make up your mind, from the absence of all these signs, that the patient is not becoming tuberculous, at all events. When you proceed to examine the abdomen, you will find, perhaps, that he has a good appetite; that his thirst is gone; that the belly is hollow and soft, and there is no tumefaction of it; that there is no tenderness on pressure anywhere; no throbbing of the abdominal aorta; no tendency to diarrhoea—in fact, no one symptom of disease of the mucous membrane of the intestine. And yet, as in the case above stairs, you have a pulse with this unpleasant degree of quickness. I rather think that this man's pulse is now quicker than it was on the twenty-first day of his illness; and it makes me extremely uneasy about him. Now, gentlemen, suppose that you did not find either disease of the lung or disease of the abdomen, what should you suspect? Generally, in those circumstances, you may suspect that the patient will be attacked by phlegmasia dolens; for we have seen a considerable number of cases in which, after fever, where the pulse continued rapid, this disease exploded. It is, I think, more likely to occur in the non-petechial than in the petechial cases; it is more likely to occur in the long fevers than in the short fevers; it is very liable to arise in patients who have had a fever running on beyond twenty-one days, or thirty days, or forty days. In these patients, after the true symptoms of fever have subsided, they remain with a rapid pulse, and probably, in a week or ten days, symptoms of phlegmasia dolens come on; and the disposition to this venous inflammation is very curious in them, for you will very often find that the patient has two or three distinct attacks of it. It may affect one leg, and you will get the patient through that attack; still the pulse does not regain its natural rate. After a week or ten days, the other extremity will be attacked: and it is even possible that a third seizure may occur, as it were, a relapse of the disease in the part first affected; and in this way patients will go on labouring under these attacks and their consequences for months together. In most instances, however, the patients recover. In most of the cases I have seen, of this acute phlebitis consequent upon fever, there was distinct notice of the invasion of the disease—that is to say, the patient was attacked with pain in the calf of the leg. He is attacked, say in the course of the night, with pain in the calf of the leg; and, when you come in the morning, you find him exhibiting all the characteristics of the disease—a large swelling, pain on pressure, and all the other symptoms. Sometimes you find a cordy state of the superficial veins; at other times not. When you can feel a deep-seated vein, you will sometimes find it in a hard and cordy state.

I think it right to warn you of these curious circumstances; for I am sure that in the course of your practice you will often be in this position—that you will have a patient recovering from fever, and going on in every respect well, except that the pulse does not come down. The rule, then, is, that if the most minute examination fails

to detect disease in the great viscera, you may expect the occurrence of phlebitis.

"The term, phlegmasia dolens, under these circumstances, is not always applied correctly; for the disease is not always painful. We have seen a few instances in which the discovery of the local affection was entirely accidental. Of course you will not suppose that I am prophesying that the patient above stairs will have phlegmasia dolens; all I say is, that he is in that state which would justify you in suspecting something of the kind.

"I have mentioned the rapid deposition of tubercle, ulceration of the intestines, and phlebitis of the extremities, as the diseases we have found to occur most commonly in these instances of unaccountable quickness of pulse after fever. Doubtless there are many more examples of local disease arising under these circumstances; but the general rule will hold good, that this symptom foreshadows a disease, which, though at first latent, will before long become manifest. These diseases are generally attended with much irritation, and the condition of the patient is rather one of irritation, or inflammation if you will, than of essential fever. And this is one of the illustrations of a circumstance often observed by the clinical investigator, namely, the change of character of disease, locally and constitutionally, in the same patient, and within a not very extended period. The typhous condition, generally considered, will change into a different state. The essential or general morbid state will disappear, and a local irritation, with its symptomatic fever, becomes the prominent malady. Nay, you will sometimes find that the very condition of a local disease, formed during the first, the typhous, or essential period of the disease, will itself change, and take on the characters of what is termed by some a 'healthy inflammation.' You may sometimes see this well illustrated in that terrible disease, accompanied by purulent deposits, in many of the articulations. The patients may throw off the typhoid state which attends the earlier periods of the disease, and then the affection of the joints seems to change in its nature, and take on the characters of ordinary arthritis. I have only seen this, however, where one or two of the larger joints had been affected with the primary disease; and it was most remarkable to witness the changes both in the constitutional state and the local affection. It was no longer necessary to use general stimulation; it was no longer improper to employ local anti-phlogistic measures." ('Clinical Lectures on Fever,' No. 10.)

ART. 11.—*Tincture of the Sesquichloride of Iron in Scarlatina.* By Dr. BYRD, Professor of Materia Medica in Savannah Medical College.

(*North-Western Medical and Surgical Journal*, May, 1854.)

Guided by the proved utility of this remedy in erysipelas, and in the anasarca condition following scarlatina, Dr. Byrd has been led to give it a trial in scarlatina itself. He tells us that his most sanguine hopes were realised in more than twenty cases; but it unfortunately happens that he did not trust to the steel exclusively, so that no

opinion can be formed from the reports of these cases. This much, however, may be said—that there is an *a priori* probability in favour of the soundness of the practice, which ought to lead to a repetition of the trial.

**ART. 12.—*Is a child proof against Smallpox whose mother has had that affection during her pregnancy?*** By Dr. WERTHEIM.

(*Edinburgh Monthly Journal*, July, 1854.)

To elucidate this interesting question, the following experiment was made in Professor Hebra's Clinique for Skin Diseases, in Vienna.

Franziska Tuczek, æt. 35, in the seventh month of gestation, was admitted on the 12th February, for variola vera; and left the institution recovered on the 8th March. On the 19th April she gave birth to a boy, whose skin was perfectly healthy, exhibiting no trace whatever of the variolous eruption. On the 18th May vaccination of the boy was attempted with vaccine lymph (which had been tried successfully on another child of the same age), but without any effect being produced, although eight punctures were made. On the 25th May, a second vaccination was attempted, under similar circumstances, but again with the same negative results.

**ART. 13.—*Coexistence of Variola and Vaccinia.*** By (1) Professor SIMPSON and others; (2) Mr. SMITH, of Sheerness; and (3) Mr. DENDY.

1. (*Edinburgh Monthly Journal*, Sept., 1854.)
2. (*Lancet*, Aug. 12, 1854.)
3. (*Lancet*, June 17, 1854.)

1. At a recent meeting of the Edinburgh Obstetrical Society, Professor Simpson stated the particulars of two fatal cases in which these two diseases coexisted. In both instances the two eruptions had appeared upon the skin about exactly the same time, and had each followed its natural progress,—seemingly unmodified by the other. In both cases there was a full and perfect vaccine vesicle; but yet the coexisting smallpox eruption was so great, and the attendant secondary fever so severe, as to destroy the patients. He pointed out the two general laws, that when these two diseases appear on the skin on the same day, or within one or two days of each other, the two affections usually, as in the preceding instances, pass through their natural courses, unaltered and unmodified, and unabated by each other; but when one of the affections forestalls the other by a larger period, as by three, four, or more days, the eruption which appears last, whether cow-pox or smallpox, is usually more or less distinctly abridged and abated in its course, whilst the first, or earlier disease, does not undergo any change or curtailment in its own natural phenomena and progress.

At the same time, Drs. Weir, Thomson, Middleton, and others,

reported similar cases. The following are the notes of Dr. Middleton's case :

CASE.—A child, æt. 5 months, was vaccinated on the 28th December, 1852; the smallpox appeared on the 30th; the child died on the 10th January, the fourteenth day after vaccination, and twelfth from the appearance of smallpox. The vaccination vesicle began to inflame on the third day, and on the eighth it had attained its perfect form and size, with depressed surface. The eruption of the smallpox was confluent over the face and hands, but quite distinct over the feet and other parts of the body—not modified in any way. They were quite matured and full on the tenth day.

2. The case related by Mr. Smith, of Sheerness, is of the same character.

CASE.—Mrs. C., æt. 40, was confined on the 21st of April last, being about eight months advanced in pregnancy. At that time one of her daughters was laid up in the same house with smallpox, and another daughter had just recovered. The patient had been feverish, and had suffered from pain in the back two or three days previous to her confinement, and on the following day the eruption of smallpox appeared. Mr. Smith immediately removed the child from the mother, and vaccinated it.

On the 29th, notwithstanding the presence of two well-formed vaccine-vesicles on the left arm, variolous papulæ appeared plentifully on the face and chest, and in a day or two all over the body. The pustules, though very numerous, were small and discrete.

Up to the 6th of May, the child appeared to promise recovery. On that day fever set in, evidenced by great restlessness and refusal to be fed. During the next two days many of the pustules burst, and the little patient died on the 8th.

3. The case related by Mr. Dendy exhibits, on the other hand, the mutual influence of variola and vaccinia, and that very unmistakeably. Mr. Dendy writes :

CASE.—A girl, exhibiting no vaccine cicatrix, had attended and slept in the same room with her sister, affected with confluent variola. During this exposure she was vaccinated by Mr. Skegg, on the 18th of May, with fresh lymph. Three punctures were perfect.

On the 22d, premonitory symptoms of variola were observed; and on the 26th, papulae. This was the eleventh day from the vaccination.

On the 30th, when I saw her, there were three very large, round, flat, dull-yellow pustules at the points of vaccination; variola plentifully scattered over the body.

On the 2d of June, eighteen days from the punctures, and seven days from the variolous papulæ, the variolous pustules changed to a brown, filmy scale, rapidly falling off; nothing like maturation or secondary fever occurring.

“ The points both of curiosity and practical interest are, the synchronously modified or hybrid character of the two pocks, seeming, unless variola and vaccine be identical, to invalidate John Hunter's axiom; the antidotal or extreme mitigation of semi-confluent and extensive variola, although not absolutely prophylactic, and, above all, the total prevention of maturation and secondary fever. *A priori*, we should at once pronounce, on the seventh day of a perfect areolar and progres-

sive vaccine-vesicle, complete immunity from variola; nor should we be prepared to see, as in this case, vesicles converted into unilocular cysts containing discs like the matured variolous pustule. A slight revolution has taken place regarding Jenner's opinion. Such a case as this, however, should make the objector pause, as it proves the value of vaccine far more than cases of prophylaxis, which may often be merely negative. These cases are very rare, but I could refer to five or six others."

ART. 14.—*Coexistence of Vaccinia and Varicella.* By. Dr. STORER.

(*American Journal of Medical Science*, April, 1854.)

The following case is recorded in the 'Transactions of the Boston Society of Medical Improvement,' as having some bearing upon the question of the identity of vaccinia and varicella.

"A fortnight previously Dr. Storer vaccinated a child six years of age. Calling, a few days after, to ascertain if the matter had been absorbed, he found his patient covered with the eruption of chicken-pox. Visiting it again to-day with the view of revaccination, the vaccine-vesicle was observed to be pursuing its regular course."

ART. 15.—*The Plague of the Himalayan territories v. True Plague.*  
By Dr. JAMES BIRD.

(*Medical Times and Gazette*, May 13, 1854.)

The account, which is here abstracted, was read before the Epidemiological Society. It is itself abridged from the official reports on the subject.

Dr. Bird begins by observing that the contemplation of a possible visitation of true plague to the scene of our present warlike operations in the East, must invest every research into the history and relation of like diseases, with an importance that could not otherwise attach to the subject. But, by considering, on a wide scale, former or distant plagues, apart from the many causes which disturb the judgment of those who had been witnesses of the scene, we were more likely to obtain unbiassed views, and principles of a comprehensive character, founded merely on the evidence afforded, not only in regard to general knowledge of all epidemic diseases, but respecting the causes and pathology of oriental plague in particular. The plague of the Himalayan territories of Gurhwal and Kumaon, had broken out there, at various times since 1823 to 1852, and had been attended by fearful mortality among the people. The Political Commissioner of these territories, Mr. Batten, and the late lamented Governor of Agra, Mr. Thomasson, had caused various inquiries to be made into the nature of this pestilence, the result of which was three reports—one by Superintending-Surgeon Renny, and the other two by Assistant-Surgeons Pearson and Francis. These reports having been forwarded by the Court of India Directors, for the information of the President and Council of the Epidemiological Society, they were given over to Dr.

Bird, for abridgment, before they could be read to the society. All the facts recorded in the reports were accordingly included in the abridgment, which was read to the society under the following heads: 1st. History of the disease; 2d. Its Semeiology, or symptoms; 3d. Its Etiology, or causes; and, 4th. Its Anatomical Pathology; with some concluding remarks on the analogy of its morbid phenomena to true plague, and the manner in which it appears to be propagated. "In abridging these interesting reports," said he, "on a form of epidemic disease, which has been prevalent in Western and North-Western India since 1815, no facts have been omitted necessary for the formation of a correct opinion as to the true nature of this disease. Whether this be typhoid fever and glandular swellings, or a modified form of the Levant plague, has become matter of difference and dispute between Superintending-Surgeon Renny and the other medical reporters. In the previous account of the characteristic symptoms, as given by the former, casual notice was taken of the apparent limited opportunities he had of seeing the disease, compared with those which were presented to Messrs. Pearson and Francis. If the series of symptoms recorded by the former were too few and insufficiently marked in character to justify the inference of a decided diagnostic opinion, those detailed by the latter, when compared with the enumeration of the true plague symptoms, as recorded for us by the most experienced observers of Levant plague, induce me to join issue in judgment with Messrs. Pearson and Francis, that the disease is decided plague; the infectious germs of which, when produced, may again become inert under certain conditions of latitude, climate, temperature, atmospheric pressure, and probable elevation of locality. But if the semeiology of the two forms of Indian and Levant plague be found so closely analogous, the morbid anatomy of the two is certainly little less so; and the weight of evidence here, in the question of dispute between Mr. Renny and Messrs. Pearson and Francis, is in favour of the correctness of their opinion. The lay official authorities on the spot incline, too, as would appear, to this view of the subject. In a letter dated July, 1852, from the Secretary to Government, of the north-western provinces, then presided over by the late lamented Mr. Thomasson, to the Medical Board of Fort William, it is said: 'The Lieutenant-Governor gathers, from the information which has been collected, that, whether the *Mahamurree* may or may not be correctly designated the plague, it is a highly dangerous fever of a typhoid form, almost identical in its symptoms with the Levantine plague, and believed by the people to be contagious. It is impossible to discover or to determine the laws which confine the influence of *Mahamurree* as of the plague within certain limits, beyond which it rarely passes. The question is, how to mitigate its ravages within the limits where it does prevail.' In this passage, where the word 'contagious' is used synonymously with 'communicable,' there is at once much good sense and sound medical philosophy, drawn as an inference from observed and recorded facts, to the exclusion of opinion founded on the conventional interpretation of terms differently used by parties engaged in the subject of controversy. One thing is obvious from these reports and official correspondence,—that controversial parties,

who discuss the origin and propagation of such diseases, are in danger of misunderstanding each other and of misleading others, unless the writers have previously fixed the meaning which should be attached to the words 'contagion' and 'infection-contagion.' Dr. Copland properly makes use of it as only a mode of specific infection, or, more definitely, the transference from one individual to another of a morbid poison, either by direct and mediate contact, or inoculation. Mr. Renny, while he admits the probably infectious character of the Himalaya plague, states, somewhat vaguely, 'that it is not propagated by a specific contagion, as small pox and true plague,' not recollecting that such an assertion must deny the production by the human body of a poisonous emanation in infectious diseases, capable of transference to others through the medium of atmospheric air. His opponents use the words infectious and contagious as synonymous, or as applicable to the character of all diseases communicable from person to person; and though they were at first disposed to trace the origin of the Himalayan pestilence to sources of imported contagion, they latterly admitted it to be both an endemic and an epidemic distemper, produced by general causes, just like that of Egypt, Syria, and Turkey, but propagated, too, by a specific one—the subtle, excreted matter which is generated from the human body, being capable of exciting like affections in others. The practical deductions they have made, are: 1st. That *mahamurree* and plague are identical. 2d. That the disease is of local origin, capable of transmission from person to person, and from place to place. 3d. That it is gradually extending itself, and that no sufficient grounds exist for the supposition, that it will never be developed in surrounding countries. 4th. That the local circumstances upon which *mahamurree* depends should be done away with, and sanitary measures introduced, in which case it is probable that the disease will be gradually eradicated, or at any rate modified in severity. Neither is the difference between them and Mr. Renny very material, whether it be a malignant typhoid fever or plague, as Cullen's definition of the latter includes what is pathognomonic of it in these words:—' *Typhus maxime contagiosa, cum summa debilitate; incerto morbi die, eruptio bubonum vel anthracum.*' "

**ART. 16.—*The Epidemic Fever, with scarlet eruption, prevalent in Calcutta in 1853.* By Dr. GOODEVE.**

(*Indian Annals of Medical Science*, No. 1, Oct., 1853.)

A peculiar fever with scarlet eruption prevailed in Calcutta and other parts of Bengal in 1824, and was described by Twining, Mouat, and others. In 1847, a similar fever was seen, and was recorded by Dr. H. Goodeve. The fever now described by Dr. E. Goodeve appeared to be of a similar kind. The symptoms set in suddenly with shivering, and fever, which was generally paroxysmal; each paroxysm lasted from two to fourteen hours, being followed by a remission of variable duration. A bright scarlet eruption rapidly followed the initiatory symptoms, being in six cases visible within twenty-four hours, and in two cases appearing in the first febrile paroxysm. It was first seen on

the upper part of the neck, the face up to the scalp, and the upper part of the thorax ; it then extended to, but was always fainter in, the upper extremities ; it seldom extended to the abdomen or the lower extremities. In colour, this eruption varied from bright red to a faint rose hue. It was occasionally slightly papular, and was obliterated on pressure. Its duration varied from forty-eight hours to six days ; it was seldom followed by desquamation. The mucous membrane of the mouth and throat, and in some cases of the nose, was involved ; there was redness, follicular enlargement, swelling of the tonsils, and sometimes, but rarely, ulceration. There was, occasionally, catarrh and congestion of the bronchial mucous membrane ; sometimes there was catarrh of the alimentary mucous membrane ; the urine was albuminous in one case.

This fever differed from those previously recorded, in two important particulars : first, in the decided implication of the mucous membrane of the mouth and throat ; and secondly, in the almost entire absence of articular symptoms, which, in former epidemics, have been so marked as to lead Dr. Copland to describe this disease in his Dictionary under the term, " Scarlatina rheumatica." Only in one of the twenty-eight cases did these joint symptoms occur.

With respect to the identity of this disease with the European scarlatina, Dr. Goodeve hesitates to draw a conclusion, although he recapitulates the striking symptoms, and observes that they are the same as those which go to make up scarlatina.

The mortality was not great ; only one case in twenty-eight was fatal. The treatment was simple.

**ART. 17.—*The fatty condition of the Liver in Yellow Fever.***  
By Dr. BACHE.

(*American Journal of Medical Sciences*, July, 1853.)

In a paper 'On the Pathology of Yellow Fever,' which does not otherwise claim our attention, Dr. Bache makes the following important remarks upon the condition of the liver. After stating the post-mortem particulars of fourteen cases, Dr. Bache proceeds :

" In reviewing the lesions presented in the above cases, those of the most interest, certainly, are the great excess of oil, found in the liver of all the fourteen cases by the aid of the microscope. Dr. Budd, in his work on diseases of the liver, makes some allusion to the probability of acute disease inducing fatty degeneration of that organ ; for, at page 300 of the second edition, he says : ' In all cases in which I have yet ascribed fatty degeneration of the liver to local causes affecting the nutrition of the part, the accumulation of the fat has been partial. It may be, however, that the entire organ may be damaged by some acute disease, or in other ways, and may become fatty in consequence. I strongly suspect that this happens in yellow fever, and in the severe bilious remittents of tropical climates.' Dr. A. Clark, in a paper contained in the ' New York Medical Times,' for May, 1853, called attention to the microscopical examination of the liver of a patient who had died of yellow fever ; it having demonstrated ' a fatty state of all the

secreting epithelial cells, and an abundance of free fat-globules.' He expresses a doubt as to whether the lesion is peculiar to yellow fever; as, in the case in which he made the observation, the liver may have been fatty before the attack of the fatal disease; and he puts the question to those who may have the opportunity of observing, 'Is not the change so constantly observed in the livers of those dying of yellow fever, an acute fatty degeneration?' The paper of Dr. Clark is not now by us to refer to, and, consequently, we cannot compare his observations with those made in the fourteen fatal cases occurring at the Pennsylvania Hospital. However, in order that others may do so, we will describe the microscopical appearances of the liver in the hospital cases. The secreting cells were pale, ill-defined, and less granular than when in the normal state. In the cells, with few exceptions, no nucleus could be detected, but its place was supplied by a single oil-globule. This was observed even in those cases in which the granular part of the cells was not so full of oil as in some others. Generally, the cells were so studded with oil-globules as to give one the idea of looking at a number of these latter, which had by chance become agglomerated or entangled by granular matter, leading to the conclusion that the cells were broken down. I am very sure we at first mistook some diseased cells for such oil-globules. Nor did the oil-globules confine themselves merely to the granular part of the cells and their nuclei; but they were found floating freely, of various sizes, all over the field of the microscope.

"These appearances were not only seen at the Pennsylvania Hospital, where they were frequently shown to physicians curious in such matters; but specimens of the morbid structure were sent to others familiar with the use of the microscope, and its application to pathology, who, in every case, confirmed the above conclusions. Moreover, several specimens, taken from the livers of persons who had fallen victims to the epidemic, and had not been admitted into the Pennsylvania Hospital, were sent there for examination, and found to present the same pathological appearances. From the above cases, are we not warranted in concluding that the liver of persons dying of yellow fever is a fatty liver? Indeed, may not the morbid change be called, as Dr. Clark has called it, 'an acute fatty degeneration?'"

ART. 18.—*On Simaba Cedron as a substitute for Quinine in Fever.*  
By Dr. PURPLE.

(*New York Journal of Medicine*, Sept., 1854.)

Dr. Purple details the five cases which are subjoined in proof of the valuable anti-periodic properties of the *cedron* seed, and states that he has subsequently treated six other cases with this drug exclusively, and with this result: "Four with cure, prompt and permanent; one passed from my observation before the result was known; and the remaining one is still under observation, having resisted emetics, quinine, and beberine, previous to consulting me."

Several writers have given their testimony to the same effect, and particularly Dr. Magrath, of Jamaica, who has tried the cedron ex-

tensively and successfully in intermittent fever. He has, also, tried it in remittent fever, but without any benefit.

Dr. Purple's cases are as follow :

CASE 1.—Mrs. E., æt. 38, of nervous sanguine temperament, rather feeble health, the mother of five children, resided in Newark, N. J., during the summer of 1852, and there contracted intermittent fever, from which she slowly recovered under the use of quinine, having experienced three relapses in the course of the season. In the month of September, 1853, having resided in this city nearly a year, she was again attacked with the quotidian form of the disease, and consulted me in the intermission between the third and fourth paroxysms. She was ordered, as there was considerable gastric derangement, fifteen grains pil. rhei comp., to be taken immediately; and after the next paroxysm of fever, to take ten grains of the cedron in powder every two hours. At the period of the next (the fifth) paroxysm, she complained of slight headache, but experienced no chill. From this time she was ordered ten grains of cedron, in powder, three times daily, for ten days. She had no return of the disease, and enjoyed afterwards her usual health.

CASE 2.—Mr. B., book-keeper in a bank, æt. 27, of spare habit, contracted intermittent fever on Staten Island, in the fall of 1852, which yielded to quinine. Late in the summer of 1853 he was again the subject of the disease, and consulted me some four weeks after the occurrence of the first paroxysm. Relying upon his own judgment, he had already taken quinine, in the same doses as previously, with the effect of temporarily arresting the disease. Its return, after an interval of nine days, led him to resume the use of the quinine in increased doses, until singing of the ears convinced him of the propriety of consulting a physician. At the time of his first visit, finding that there existed much tenderness or pressure over the epigastrium, slight yellowness of the conjunctiva, and tongue coated with brown fur in the centre, with red tip and edges, he was ordered thirty grains of ipecac. in powder, with ten grains of calomel. This potion operated freely as an emeto-cathartic, and after the succeeding paroxysm of ague, he was ordered ten grains of cedron, reduced to powder by grating the seed on a nutmeg grater, every three hours. The paroxysm of ague, which was expected at its usual period, was delayed some two hours, and was somewhat less in severity and shorter in duration than that which succeeded the action of the emetic. As there existed some pain in the bowels, which was supposed to arise from the action of the cedron, he was ordered the same amount as before, every four hours, combined with fifteen drops tinct. opii comp. These directions were steadily adhered to for four days, when the paroxysms of ague having ceased, he was directed to omit the paregoric, and use the same amount of cedron three times a day. These orders were followed for some two weeks, when the further use of the medicine was suspended. Mr. B. has had no return of the disease. At no time did he complain of singing in the ears, or any other unpleasant sensations, except the slight gripping pain in the bowels, which could be attributed to the action of the cedron.

CASE 3.—M. S., æt. 29, by profession an accountant, of spare habits, and strong nervous temperament, in the summer of 1852, contracted intermittent fever, of the quotidian type, at Morrisania, where he was then residing. His attending physician put him upon the use of quinine, which, in the course of five days, arrested the paroxysms of ague. Remaining, however, exposed to the same causes, the disease returned in the

course of the third week, when he was again put upon its use, with the effect of arresting the disease, although more tardily than on the previous occasion. From this time he remained free from the disease until January, 1853, when, from domestic causes, his usual health having become considerably impaired, he was attacked with the disease with much greater severity than on either of the previous occasions. Tonics combined with quinine, were ordered him by his medical attendant. These were perseveringly used, for a period of four weeks, with but slight beneficial effects, and, meantime, his general health had become still more impaired by the disease. Seeing that something more was required to arrest the paroxysms, he was, very properly, ordered an ipecacuan emetic, which was followed by blue pill, in five grain doses, three times daily, until two paroxysms (the fourth day) had passed by, when he was ordered Fowler's solution, accompanied with a liberal diet, and, during the well day, a moderate use of London porter. Under this treatment, there occurred soon a decided improvement in Mr. S.'s case, and, although at the end of two weeks he had no distinct ague-chill, yet there remained a periodical headache, accompanied with fever and with neuralgic pains in the facial and inferior maxillary nerves. These, under the use of carbonate of iron and vegetable tonics, almost entirely disappeared, and from this time until the succeeding October, with the exception of an occasional chill, or ague paroxysm, he continued to attend to his usual business.

In the latter part of September, 1853, Mr. S. spent about a week on Staten Island, and, immediately on his return to this city, was seized with the tertian form of intermittent fever, for the cure of which, in the course of four weeks, he took an ipecacuan emetic, quinine, Fowler's solution, nux vomica, and blue pill, followed again by quinine, with but slight, or temporary benefit. His general health having now become considerably reduced, he was almost ready to despair of a cure being effected in his case.

On the 2d of November I was first consulted in regard to the treatment of the case, and as he had but two days previously taken an emetic-cathartic, and there was but little chylopoietic derangement, he was immediately put upon the use of cedron in powder, and in twenty grain doses, every four hours in the froth of porter, with directions to suspend the remedy only during the hot stages of the disease. For four days he steadily persevered in the use of cedron, and at the end of this period, as there was a marked improvement—the paroxysms of fever having nearly ceased, and as there was present slight diarrhoea, accompanied with griping pains in the bowels—the cedron was diminished to ten grain doses, each dose of which was combined with fifteen drops of tinct. opii camph. This treatment was continued for three days, when all evidence of paroxysmal symptoms had disappeared. Mr. S. was now ordered ten grains of cedron every morning, with a view to its tonic effect; for I had become satisfied that it possessed decided tonic properties, especially in those states of the system which call for the use of columba, gentian, and other vegetable tonics. Under this treatment, he gradually and permanently convalesced, and has since had no return of the disease.

CASE 4.—A. N., æt. 19 years, of marked bilious temperament, and robust constitution, on the 26th of July, 1853, sickened with what he supposed to be a bilious attack, which, under domestic treatment, continued three days, when he was seized with a severe fit of ague, about 11 o'clock, A.M., which was followed with much febrile excitement, intense pain in the head &c., which in its turn was succeeded by profuse sweating. With this paroxysm, all sickness passed off, and the next day he considered himself in

usual health. On the second day from the first ague fit, at M., he sickened again, with a paroxysm, the same as two days previous, when, for the first time, he consulted me. Believing his attack to be intermittent fever, he was ordered to take of cedron, in powder, as much as could be held upon a Spanish shilling piece, every four hours, for forty-eight hours, omitting it only during the succeeding paroxysm, if it should occur. He took as directed, in all, ten doses, with the effect of permanently arresting the disease. He has since had no return of intermittent fever.

CASE 5.—A little girl, æt. about 6 years, daughter of Mr. H., of 29th street, was observed to complain, every other forenoon, of being chilly, which condition was followed by headache and fever. She was subjected to domestic treatment for a week or more, when the paroxysms of ague became well marked, and the fever was accompanied by delirium. When first seen by me, the centre of her tongue was coated with brownish-yellow, the tip being red; she complained of lassitude, and considerable pain in the epigastric region. She was ordered ten grains of pulv. rhei, with three grains of calomel, which produced three evacuations of the bowels. She was then directed to take a teaspoonful of the following mixture every four hours: cedron, thirty grains; simple syrup, two ounces; paregoric, one drachm. These directions were carried out for thirty-six hours, and as the next paroxysm did not recur, she was ordered a teaspoonful morning and evening. Her recovery was complete, and although apparently exposed to the same causes, she has since had no return of the disease.

From this, and other evidence affecting the therapeutical action of the cedron, Dr. Purple considers himself entitled to conclude:—

That it possesses decided anti-periodic properties, and is therefore applicable in the treatment of periodic diseases.

That it is less likely than quinine to produce encephalic or neuro-pathic phenomena.

That it may, in large doses, repeated often, produce griping of the bowels, and even diarrhœa; but that these conditions are easily controlled by appropriate medicaments.

That, as a remedy in intermittent fever, it possesses properties, in many respects, equal to quinine, and that in most cases it is equally adapted to the curation of this disease.

That, in the treatment of yellow fever, it does not appear to possess any particular advantages over quinine, but is equally well adapted to fulfil the indications which call for the use of this latter remedy.

That it possesses marked tonic properties, and deserves a prominent place in this classification of the *Materia Medica*."

The cedron seed was introduced to notice in 1850, as a remedy which was believed by the native Indians to be infallible in the bites of venomous serpents. It belongs to the natural order Simarubeæ. Its habitat is New Grenada. At present it is very scarce, but there is every reason to believe that the supply would soon equal the demand for it.

**ART. 19.—*Treatment of Intermittent Fever by Quinoidine.***  
By Dr. PEPPER, Physician to the Pennsylvania Hospital.

(*Philadelphia Medical Examiner, Sept., 1854.*)

In April last, at the suggestion of Dr. Conrad, Dr. Pepper was induced to try quinoidine in lieu of cinchonine in the treatment of intermittent fever, and he now reports the results of that trial in five cases, which have been brought into the hospital since that time. As Dr. Pepper allows, this amount of evidence is insufficient to establish any positive conclusion in therapeutics, but it is sufficient to invite the attention of the profession to a more extended trial of the remedy.

“Before proceeding to report these cases, it may be well to state a few facts in regard to the remedy under consideration. As far back as 1833, Henry and Delondre discovered this alkaloid, and gave it its present name; the following year, however, further investigations induced them to believe that it was identical with quinine. In 1848, Winckler, a distinguished German chemist, gave a full description of it, and some of its salts; he at first, was also disposed to consider it as a mere hydrate of quinine; but by patient investigation, finally proved that it was a distinct substance, possessed of many distinct physical and chemical properties. In the last edition of Pereira’s ‘Materia Medica and Therapeutics’ for 1854, it is stated that the quinoidine may be obtained from most of the genuine cinchona barks, by the same processes that are used for procuring quinine; the sulphate of quinoidine being more soluble than the same salt of quinine, the former is left in the mother waters. The most important fact, however, in connection with this subject is, that this new alkaloid is found to abound in the cheaper kinds of barks from New Grenada; the Bogota cinchona, which contains but little quinine and a large amount of quinoidine, is now largely used in England for obtaining this last-named alkaloid. It can now be obtained at Powers and Weightman’s, manufacturing chemists of Philadelphia, at fifty cents an ounce less than quinine; and there is no doubt that it could be supplied by the importation of the cheaper kinds of bark, at a price not exceeding that of cinchonia itself.”

The sulphate of quinoidine used by Dr. Pepper, presented much the same appearance as this salt of quinine, nor was there any marked difference in their taste or solubility. For those who desire to investigate more fully the chemical and physical properties of this substance, the author refers to an elaborate paper by Winchler, in the ‘Pharmaceutical Journal’ for 1854, vol. viii, p. 527; and to an article by the same author, in the ‘Chemical Gazette,’ vol. vi, p. 164. No allusion, however, is here made to its therapeutic properties, nor has he been able to refer to any author, where such information may be obtained. Mr. Proctor, the editor of the ‘American Journal of Pharmacy,’ informed him that he had met with the same difficulty, and that with the view of elucidating this point, he had recently requested a medical friend to test its powers in intermittent fever; the result, he states, was most satisfactory in the only four cases of obstinate disease in which it was tried.

**CASE 1.**—A labourer, æt. 26 years, entered the hospital April 5th, with intermittent fever of the tertian form, the paroxysm generally coming on at 10 A.M.; he had been suffering with the disease for two weeks.

On the 6th, he had a severe chill, lasting thirty minutes, and followed by the usual hot and sweating stages. Accordingly on the morning of the 8th, he was directed to take quinoidine sulph. grs. x, grs. ij every hour, commencing at 5 o'clock.

From this time the patient had no return of the disease, and although he remained in the institution until the middle of June, he had no relapse during that time.

**CASE 2.**—T. W., labourer, admitted May 27th, stated that he had been subject to chills and fever for four months, and that he had contracted the disease in Savannah. At first, the paroxysms appeared to have come on about 10 o'clock every other day; lately, however, they had assumed the quotidian type, but still occurred at the same period of the day.

Although the patient had a chill on the day of his admission, as also on the following day, no treatment was instituted until the 29th, when he took the quinoidine in doses of grs. ij every hour, commencing at 8 A.M., or just five hours before the expected paroxysm. The only perceptible effect in this instance, however, was the mitigation of the chill, and its postponement for about one hour.

On the following day, the same treatment was resumed, and with the most perfect success; he remained in the house about ten days after this, but during his stay had no relapse.

**CASE 3.**—A young Irish woman, æt. 22 years, was admitted June 2d; she stated that she had been suffering all last fall with chills and fever, and that she was finally cured of her disease, after entering this hospital. Since then, she has remained perfectly well up to May 20th, when the chills again appeared, and continued to recur daily at about 10 a.m.

With the view of ascertaining the character of the attacks, it was deemed most expedient not to interfere until the 5th, or three days after admission. She now took quinoidine in doses of grs. ij every hour, commencing at 5 A.M., until in all grs. x had been taken; without, however, checking the paroxysm, though it was certainly considerably mitigated.

On the following day, June 6th, the same plan was pursued, and with the effect of completely checking the disease, which, in fact, did not return during the ten days she remained in the hospital.

**CASE 4.**—A labourer, æt. 48 years, entered the house June 13th, suffering with a severe chill; he had the same on the five previous days, the paroxysms coming on in the course of the forenoon, but rather irregularly.

On the 14th, he had a chill, lasting nearly two hours, and commencing about 10 o'clock, a.m.; on the following day he took the quinoidine grs. x, as in the former instance, grs. ij every hour, in anticipation of the chill. It, however, came on at the usual time, but was exceedingly mild, and lasted only thirty minutes.

On the 16th, the remedy was administered in like manner; upon this occasion it effectually checked the disease, nor was there any relapse up to July 1st, when he left the Institution. In this case, it should be mentioned, that as the patient was somewhat anæmic, and had enlargement of the spleen, gr. i. of the quinoidine combined with gr. v of carb. Ferri (Vallat) was continued three times a day, during his stay in the house.

**CASE 5.**—A sailor from Mobile, æt. 22, entered June 17th, sick two weeks with intermittent fever; the attacks coming on daily at about mid-day. This patient was somewhat prostrate and slightly jaundiced.

The treatment by quinoidine was commenced on the 19th; the paroxysms, however, came on one hour earlier than upon the previous day, and the chill was quite as severe as usual. On the 20th, he again took grs. ij, for five consecutive hours, in anticipation of a return; but from this time until he left the hospital, June 27th, he remained perfectly well.

Dr. Pepper continues:

"Excepting in the first case, above reported, the remedy had to be repeated a second time, before the fever could be fully arrested, but in no instance was its further use necessary. It is to be regretted that the cases could not have been retained longer under observation, so as to have fully ascertained as to the permanency of the cure; but the crowded state of the wards, and the unwillingness of the patients to remain when they felt perfectly well, rendered it impossible to effect this desirable end. It will be perceived that grs. x was the largest amount given upon any one day; and as I have generally, under apparently similar circumstances, been obliged to give grs. xv. of sulph. quinia or cinchona, I am disposed to believe that the quinoidine is more active than either of these alkaloids. In England it is manufactured chiefly with the view of adulterating quinine; but if the above conclusion be confirmed by further observation, our patients' health will not suffer by such admixture, however unfavorably it may operate upon them in a pecuniary point of view."

ART. 20.—*Common salt as a remedy for Intermittent Fever.*

By Dr. HUTCHINSON, of Brooklyn.

(*New York Journal of Medicine*, March, 1854.)

In this article Dr. Hutchinson relates twenty-two cases of intermittent fever in which the treatment by salt was carried out.

The dose in which the salt was given varied from eight to twelve drachms during the apyrexia. At first, eight drachms were given, but the amount was subsequently increased to nine, ten, and even twelve drachms in one instance, with obvious benefit. Children required somewhat larger proportional doses than adults.

Mucilage of elm was selected as the vehicle, on account of its convenience, and because it sufficiently disguised the remedy, which was deemed a matter of importance; for it would have lost much of its efficacy, or have been repudiated altogether, had the patients known they were taking simply common salt. The following was the formula used:

R. Chloridi sodii, ʒij;  
Uimi pulv., ʒij;  
Aq. bullientis, f ʒvij.  
Infuse two hours, and strain.

This forms a saturated solution. Dose, a table-spoonful every two, three, or four hours, so that five or six doses may be taken during the apyrexia. It was not deemed necessary to precede its employment by evacuants, because the patients had recently used such remedies during their former attacks; and, moreover, Dr. Hutchinson preferred

to use the salt alone, because its real value could thus be better determined. When it is necessary to precede the use of the salt as an antiperiodic, by emetics or cathartics, perhaps there is nothing better for the purpose, in ordinary cases, than the same remedy administered in emetic doses, which will usually produce also moderate catharsis.

In most of the cases the remedy was well tolerated by the stomach, nausea or vomiting having occurred in but four instances. Four cases also had moderate alvine evacuations, unattended with pain. There was considerable thirst in every case, but no other unpleasant effects. When given in the above manner (dissolving it in as small a quantity of water as is possible), it is less likely to disturb the stomach than the same or even a less amount would in a larger proportion of the solvent. The taste was objected to by some, whilst others disliked it much less than quinia.

The following are Dr. Hutchinson's conclusions :

" 1. Although inferior to cinchonia and its preparations, it yet forms a *very good substitute* for them in intermittent fever, having failed, as we have elsewhere seen, to produce a speedy suspension of the paroxysms in 31.8 per cent. of the cases only ; in a majority of cases, therefore, it may be substituted for quinia.

" 2. It may be used instead of, and, indeed, *preferably* to quinia : —First, In cases, not unfrequently met with, where the latter remedy is forbidden by the very unpleasant nervous and cerebral symptoms it produces (delirium, tinnitus aurium, cephalalgia, faintness, &c.), an example of which I have recently seen in the New York hospital, when sulphate of copper was substituted. Secondly. Where quinia, from frequent repetition, has lost its effect. Thirdly. It is commended on the *score of economy*, which is a consideration of importance to the poor especially, who are now in a measure debarred from the use of quinia by its high price. And, fourthly. It is always at hand, whilst quinia sometimes cannot be obtained.

" It has been found to be *more energetic* in curing ague than any of the vegetable or mineral tonics commonly used for that purpose, excepting bark ; and should, therefore, be preferred to arsenic, which has been ranked by M. Andral, Prof. Wood, and indeed most other authorities, next in value to quinia. And, moreover, I think arsenic should never be used until after quinia and *common salt* have failed to do good, on account of its unpleasant, and sometimes disastrous, consequences to the general system and stomach, and the increased facilities it affords for using the remedy as a toxicological agent."

### (c) CHRONIC DISEASES.

ART. 21.—*The changes produced in the Blood by the administration of Cod-Liver Oil and Cocoa-Nut Oil.* By Dr. THEOPHILUS THOMPSON, F.R.S., Physician to the Consumption Hospital at Brompton.

(*Proceedings of the Royal Society, April, 1854.*)

The author has found, that during the administration of cod-liver oil to phthisical patients their blood grew richer in red corpuscles, and

he refers to a previous observation of Dr. Franz Simon to the same effect. The use of almond-oil and of olive-oil was not followed by any remedial effort; but from cocoa-nut oil, results were obtained almost as decided as from the oil of the liver of the cod, and the author believes it may turn out to be a useful substitute. The oil employed was a pure cocoa oleine, obtained by pressure from crude cocoa-nut oil, as expressed in Ceylon and on the Malabar coast from the Copperah or dried cocoa-nut kernel, and refined by being treated with an alkali, and then repeatedly washed with distilled water. It burns with a faint blue flame, showing a comparatively small proportion of carbon, and is undrying. The analysis of the blood was conducted by Mr. Dugald Campbell. The whole quantity abstracted having been weighed, the coagulum was drained on bibulous paper for four or five hours, weighed, and divided into two portions. One portion was weighed, and then dried in a water-oven, to determine the water. The other was macerated in cold water until it became colourless, then moderately dried, and digested with ether and alcohol, to remove fat; and, finally, dried completely, and weighed as fibrin. From the respective weights of the fibrin, and the dry clot, that of the corpuscles was calculated. The following were the results observed in seven different individuals affected with phthisis in different stages of advancement:—

	Red corpuscles.	Fibrin.
First stage, before the use of cod-liver oil . . . . .	{ Female 129.26 . . . . . Male 116.53 . . . . .	4.52 13.57
First stage, after the use of cod-liver oil . . . . .	{ Female 136.47 . . . . . Male 141.53 . . . . .	5.00 4.70
Third stage, after the use of cod-liver oil . . . . .	{ Male 138.74 . . . . .	2.23
Third stage, after the use of cocoa-nut oil . . . . .	{ Male 139.95 . . . . . Male 144.94 . . . . .	2.31 4.61

ART. 22.—*The Urate of Lime in the coats of the veins in cases of Gouty Concretions.* By Dr. J. L. C. SCHROEDER VAN DER KOLK.

(*Nederlandsch Lancet*, July and Aug., 1853; *Dublin Quarterly*, May, 1854.)

It is generally known that in cases of gout in which concretions form, the uric acid is not entirely removed from the system by the kidneys, but that it accumulates as urate of lime in various parts of the body, especially in the fingers. On examining, after death, the hands of a patient in whom these concretions existed to a great degree, I not only found the tendons of the flexors and extensors of the fingers, as well as the ligaments, deeply coated with urate of lime, but also discovered this salt forming tolerably large knobs under the very skin, so that some of the digital nerves were here and there completely surrounded and perforated by it. But my attention was particularly attracted by observing, after I had dried a portion of the skin in which the arteries and veins had been injected with red and blue, that the latter vessels existed as white ramifications, in consequence of the great quantity of urate of lime which had been deposited in their

coats, while the arteries were quite free from any such change. The valves of the veins, too, appeared to have been injured or altered by a deposition of the same salt. Thus, we can scarcely ever succeed in injecting the ramifications of the veins, at least those of the fingers, from the trunk; but in this case, I saw to my surprise, that the veins, especially of the hand, and, in a less degree, those of the fingers, became most finely filled with the blue matter, which was injected into the veins of the forearm.

I am not aware whether this alteration of the veins in gout has been described by any writer. That it is closely connected with absorption appeared to me evident from this, that in the situations where the skin was most penetrated with the urate of lime, the cutaneous and capillary veins were most abundantly studded with the salt in their interior. It thus appears that the urate of lime, having been separated from the blood, the tendons, and the skin of the hand, is in part taken up again by the veins, and so becomes more widely dispersed through the system, while part is at the same time deposited also in the coats of the minutest capillaries, and especially as the valves are simultaneously destroyed, it cannot be altogether without influence on the circulation of the blood.

The violent pain by which this patient had so often been tormented can be easily explained, as the urate of lime had at the same time been deposited around the nerves, and had even penetrated the latter, as was very plainly demonstrable in the nerves of the thumb and index finger, which I examined as to this point, and which appeared somewhat swollen in consequence. It must be left to further investigations to show how far the pain in gout is always to be ascribed to irritation or pricking of the nerves of the great toe in consequence of the deposition of urate of lime between the sheaths of the nerves.

**ART. 23.—*An Example of the concurrent development of Cancer and Tuberclie.* By Mr. SIBLEY, Registrar of the Middlesex Hospital.**

(*Transactions of the Medical and Chir. Society, vol. xxxvii, 1854.*)

This was the case of a woman, æt. 48, admitted into the Middlesex hospital, with a sloughing cancerous sore in the left breast; there was a hard tumour on the inner side of the size of an orange, and several small nodules of cancer at its edges. In the course of five days after her admission nearly the whole remaining portion of the tumour sloughed away, leaving a clean-looking surface, which immediately began to cicatrize. Subsequently, pulmonary symptoms became developed, profuse expectoration followed, and she sank and died three months after her admission. On making a section of the structure of the left breast, it was seen to be an extremely dense form of infiltrating scirrhus, traces of breast tissue, such as ducts, being very apparent. In the thorax, large masses of tuberculous lung tissue were observed. Tubercular cavities existed in the apices of both lungs; a part of the lower lobe of the right lung was in a state of grey hepatisation, and the bronchial tubes were thickened and dilated. In the left pleura were numerous crude tubercles. On

examining the dates of this case, positive proof was obtained that a cancerous tumour was increasing in the breast simultaneously with the increase of tubercular disease of the lungs, and that for a period of at least six weeks. The author thinks that a single instance of the concurrent existence of these diseases was sufficient to destroy the doctrine of the absolute incompatibility of tubercle and cancer with each other.

ART. 24.—*The Lardaceous or Cholesterine Diseases.* By Dr. MECKEL.

(*Medico-Chir. Rev.*, Oct., 1854.)

The following information respecting the *chemical properties* of this disease, is from an article in the 'Annalen des Charité Krankenhauses zu Berlin;' *Viertes Jahrgang, Heft 2*, s. 264. The reviewer is Dr. Parkes :

"A fresh lardaceous liver, spleen, or kidney, yields to hot or boiling water a large quantity of a substance which has an acid reaction, is tasteless, and is soluble in water, with which it can be made to froth; it does not pass over when distilled with water; it does not hinder albuminous solutions from passing through membranes saturated with it; caustic potash makes its solution clearer; hydrochloric acid decomposes it, and brings into view fat drops, which form on the surface.

"The lardaceous organ yields to cold alcohol a yellow-brown crystalline oily pulp; to hot alcohol a larger quantity of similar substance. Ether extracts a small quantity of similar substance. Meckel considers this substance to be a *soap*, a combination of bases (the exact nature of which he leaves undetermined), with an excess of fatty acid.

"When the solution is evaporated, the following *microscopic* appearances are seen. It should be mentioned that there is never any polarization of the light (absence of sugar):

"1. Pure, almost colourless oil-drops, coloured yellow or brown by iodine, than made darker by sulphuric acid, without any play of colour.

"2. Similar oil-drops, made of a *dark blue-green colour* by iodine and sulphuric acid.

"3. Oil-drops, simple, or in concentric layers, coloured at first *beautifully violet*, then blue, then dark-brown, by iodine and sulphuric acid.

"4. Aggregated nodules and various extraordinary forms of a colourless fat, partly in extremely fine stratified drops, partly in long stratified, straight, or winding cylinders, with double outlines, exactly like nerve-tubes; partly appearing as simple drops, with, perhaps, enclosed *water-drops and crystals*. All these are scarcely coloured by iodine, and are rendered by *sulphuric acid entirely colourless*.

"5. Needle-form crystals, single and in bundles, not coloured by iodine; rendered by sulphuric acid beautifully blue and green.

"6. Cholesterine crystals, not coloured directly by iodine, but exhibiting after the application of iodine and of sulphuric acid a beautiful

play of colours, first violet, then for days indigo and cærulean blue, then later a beautiful emerald green.

Such a choas of substances is indicated in these reactions, that a perfect isolation and description of them is not at present to be hoped for; but Meckel believes that the reactions with iodine and sulphuric acid of the fresh organ, and not of the extract, are sufficiently precise to enable us to distinguish at least four substances, which he calls the "speck-roth, speck-violet, cholesterin, and speck-kalk." The literal translation of these terms would be *bacon-red*, *bacon-violet*, *cholesterine*, and *bacon-chalk*! but as the genius of our language is little adapted for the translation of such Germanisms, we shall not attempt to render them literally.

"1. The lardaceous substance, which gives the *red* reaction (speck-roth), is the most abundant and widest spread. It is colourless, semi-transparent, and, when in large quantity, presents the appearance of a jelly-like firm grey infiltration, without evident oil-drops. It is, according to Meckel, a peculiar double body, composed of coagulated ablumen and a fat. This substance can be always recognised by the simple iodine reaction, which gives a yellow-red colour, distinct from the violet-red of dextrin.

"2. The lardaceous substance with the violet reaction (speck-violet) is a firmer, denser substance, in much smaller quantity than the former. It is probably a combination of cholesterine and other fats. It seems to occur in the normal state in the "corpora amyacea." In disease it is often found in the little arteries, especially in the Malpighian bodies in the lardaceous kidney. To produce the violet reaction, sulphuric acid must be added after the iodine.

"3. Pure isolated cholesterine is seldom found in lardaceous exudation. It is present without the two former substances in the large arteries of those affected with lardaceous disease. Meckel found it once with the substance with red reaction (speck-roth) in the cerebral vessels of a lunatic.

"4. The lardaceous substance with calcareous matter is found only in the kidney, and here only in small quantity. It is greatest in quantity in the Malpighian corpuscles.

"The exact nature of the peculiar fat which plays so important a part in the composition of all these compounds is unknown. No other fat shows this reaction with iodine. The author thinks it cannot be related to starch and dextrine. The common kinds of fat form, he suggests, the basis of the lardaceous fat, and then, through the influence of bases, peculiar changes occur, which at first produce soaps of ammonia and other alkalies, and end at last in the production of cholesterine, and of compounds of chalk with the lardaceous exudation."

Dr. Parker adds, at another page :

"If it really appear that the so-called lardaceous substance is, within certain limits, a stable chemical compound,—and if it can be so easily distinguished by the test with iodine and sulphuric acid,—a new path of great interest is opened for pathologists. We must confess, however, that Meckel's chemistry appears to us rather rude and unsatisfactory, and we are not at all convinced that he has made out the propriety of the term 'cholesterine disease.' Still our previous know-

ledge of the lardaceous affection leads us to think that many of his facts are correct, and some observations made in this country lend, we think, considerable support to some of his views."

Dr. Parkes refers to some recent investigations by Drs. Gairdner and Sanders of Edinburgh, which investigations were indeed contemporaneous with those of Dr. Meckel. (See 'Edinburgh Monthly Journal,' Feb., p. 186, and May, p. 393.)

#### ART. 25.—*On Tuberclæ.* By DR. MANDL.

(*Archiv Gén. Med.*, Mars, Avril; and *Medico-Chir. Rev.*, Oct., 1854.)

M. Mandl has published two interesting papers on the microscopic examination of tubercle, in which he enters pretty fully into the literature of the subject. He denies altogether that tubercle presents any specific morphologic elements. He states:—1. The tuberculous substance is an amorphous matter strewed with fatty molecules; it is finely granular at first, then diffused. It infiltrates the elements of tissues, and solidifies in the interstices. The fragments of this amorphous substance, presenting neither determinate form nor size, are analogous to those of all other amorphous exudations. There are no special tubercle-globules or corpuscles; there are no characteristic elements. 2. The tubercular substance, being an amorphous matter, cannot increase and develop. Tubercles grow only by juxtaposition—*i.e.*, by fresh exudations. This is a proof the more that the progress of the disease is dependent on an incessantly active cause, which cause must be got rid of, if we would root out the tuberculization. 3. Softening of tubercle is due to a fatty degeneration, which can declare itself before products of inflammation, such as pus and "inflammatory globules," show themselves. 4. This degeneration is a certain proof that tubercle cannot organize itself, as fatty degeneration occurs only in tissues, the nutrition of which is suspended. 5. By means of the fatty degeneration and the products of inflammation, which are joined to it at a later period, tubercle is completely eliminated. 6. If one is permitted to draw a therapeutical inference from these facts, it is, that attention should be directed, first to the cause, and secondly to the modifications which the tubercle undergoes—*i.e.*, the natural course of the disease.

#### ART. 26.—*On Syphilitic Eruptions, Ulcerations, and other secondary symptoms, with especial reference to the use and abuse of Mercury.* By MR. THOMAS HUNT, Surgeon to the Western Dispensary for Diseases of the Skin.

(*Pamphlet*, 12mo., London, Churchill, pp. 95, 2d Ed.)

Mr. Hunt regards mercury, properly given, as the only cure for syphilis, and improperly given, as one main cause of the gravity and universality of the disease. He denies that mercury is capable of originating disease similar in character to the secondary forms of syphilis; and holds, that in cases where it is supposed to have done so, the drug has acted as a poison, and allowed latent syphilis to come

into play by counteracting the *vis medicatrix naturæ*. The moment the mercury begins to act as an irritant, that moment it begins to be a poison to the system at large ; and so beginning, the virus takes the opportunity to re-establish its workings.

“ So long as the general system does not suffer from the mercurial poison, it will remain capable of taking advantage of the special effects of the mineral as exerted on the morbid condition of the blood ; but when the gums become sore, or the bowels disturbed, there is here a new source of irritation and debility. The animal poison may have been in part neutralized ; but, if the strength of the system be sacrificed to the action of the mineral poison, it will no longer be able to contend with the original disease, which, although less virulent in its nature, may become more destructive in its effects. It often happens that syphilitic symptoms will yield, under a course of mercury, up to a certain point ; *the disease will then become stationary, and, if the medicine is persevered in, the symptoms will become aggravated* ; sores which were healing will again ulcerate, dissipated eruptions will reappear, and the patient may even fall into a worse condition than before. And yet the disease is as purely syphilitic as ever it was, and as ready to yield to mercury, if rightly administered ; but the system being for a time deranged by its excessive administration, the *vis medicatrix naturæ* is paralysed, and the disease is triumphant.” (pp. 34-35.)

Apart from theory, then, the case is practically this. A continued course of mercury generally exerts a salutary influence over syphilitic symptoms ; *but only for a time. It then does harm.* Whatever the reason of this, the practical conclusion is plain, namely, to desist, and not to renew the treatment until the system has recovered from this shock, if such renewal be necessary. This desisting, and renewing, if necessary, is the principle of Mr. Hunt’s practice. The action of mercury is looked upon as sudden and transient—as that of a shock through the organic nerves. This shock, once produced—and this point is to be determined by the appearance of signs of improvement in the eruption or ulceration,—and the mercury is to be immediately discontinued, and tonics and aperients given in its stead. If the disease returns, mercury is again to be had recourse to, and again abandoned for tonics and aperients as soon as the shock is produced. “ An improvement in the disease, ever so slight, be it real and satisfactory, should be regarded as the signal for suspending the mercury.” (p. 41.) And so on, again and again, if necessary ; each course being so managed as to arrest disease *without disturbing the general health*, and each course being made more energetic than its predecessor in consequence of the growing tolerance of mercury in the system.

The exposition of this principle of treatment is preceded by some remarks on the diagnosis and prognosis of the disease, and succeeded by a number of illustrative cases ; and the whole forms a pamphlet which ought to be well read and well pondered over.

ART. 27.—*The truces of Constitutional Syphilis.*  
By M. GAMBERINI.

(*Bull. delle Sci. Med. di Bolonga* vol. xxiii, 1853; and *Dublin Quarterly*, May, 1854.)

The substance of M. Gamberini's essay upon this subject is reduced to the following heads :

“ 1. The syphilitic taint, in addition to the intrinsic differences which distinguish it from other contagious diseases, possesses that which I denominate *truce*, or temporary cessation of the visible and sensible phenomena of the malady.

“ 2. The truce takes place either spontaneously, that is, as it were, by a peculiar law of constitutional syphilis, or artificially, from the operation of therapeutic means.

“ 3. The occurrence of the truce has induced a belief in the therapeutic value of the methods of treatment which exclude mercury, which latter medicine has been shown by experience to be the true remedy for syphilis.

“ 4. These truces, whether natural or artificial, lead, in a period of uncertain duration, to cure.

“ 5. The cure of confirmed syphilis is accomplished only by means of the truces ; it therefore requires an indefinite time for its accomplishment, and demands a proportionally vigorous and repeated treatment.”

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SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A.) CONCERNING THE NERVOUS SYSTEM.

ART. 28.—*Opium in incipient Psychical Disturbances.*  
By Dr. ERLENMEYER.

(*American Medical Monthly*, 1854; and *North-Western Medical and Surgical Journal*, May, 1854.)

The interest and importance of Dr. Erlenmeyer's remarks will be greatly increased by reading them in connexion with a paper, by Dr. Oliver, on the use of large doses of opium in mania, (v. ‘Abstract,’ vol. XVIII, p. 276), and with some remarks by Dr. George Johnson, on opium as a means of preventing and removing some of the ill-effects of over-work and anxiety (v. ‘Abstract,’ vol. XIX. p. 36). Dr. Erlenmeyer writes :

“ The time is not long gone by when, in our best insane hospitals, the use of narcotics, in the treatment of psychical diseases, was wholly interdicted. This view was first changed by the recommendation of opium by Dr. Herman Engelken ; and this remedy then began occasionally to be tried, and indeed, in somewhat larger doses than usual.

The excellent result which followed this practice, in certain cases, continually encouraged to further trials; so that now it is considered indispensable by our best physicians.

“ The form of psychical disturbance in which opium succeeds best, is melancholy, in its various shades. It animates the patient, exalts innervation, and gives to the despairing sufferer new courage. I have tested this remedy in private practice. With few exceptions, mental disturbances, in their first stage, accost us as a melancholic temper, so that these cases also appear appropriate for the administration of opium. Upon different occasions, when I have been called to the treatment of commencing mental disturbance, I have, therefore, decided upon the exhibition of opium, and have seen really surprising results from it, since many patients have not only been temporarily improved thereby, but for the most part have been completely cured.

“ Opium, administered in large doses, operates, in many respects, entirely different from small doses. It produces no congestion of the brain; it does not induce constipation—on the contrary, I have, in several cases, observed severe diarrhoea following the use of this remedy, which required its discontinuance. I have, in all cases in which constipation followed the exhibition of small doses at the commencement, seen this disappear upon its continued and increased administration. The nutrition of the patient is very quickly increased, and I have repeatedly seen the weight of the body gain from two to three pounds a week. The courage of the patient, which in melancholy, is so depressed, becomes exalted; the constant complaints and lamentations are silenced; in short, the patient in a brief time is both corporeally and mentally changed.

“ In the hospitals, the exhibition of opium has been carried to six grains at a dose; and several physicians, especially those who first commended the practice, have carried it still further, without observing any injurious effects. At the commencement of psychical disturbances, such doses, though they may be well borne, are not at once necessary; and the exhibition of from two to four grains twice a day will suffice completely to allay incipient melancholy.

“ The best form of opium is the powder, as such, or made into pills; whilst the tinctures and alkaloids have not been so efficient in my hands.

“ Whilst I now proceed to the indications and contra-indications, I should observe, in the first place, that the data brought forward are imperfect; and that I here mostly appeal to symptoms, will be excused by the reader, who knows full well that the diagnosis of the condition lying at the basis of mental maladies is infinitely difficult.

“ The highest indication for the exhibition of opium is the hyperæsthesia, which presents itself at the commencement of psychical disturbances in so manifold a manner. It matters not whether this hyperæsthesia be of peripheral or central origin; nor is it of any consequence in which division of nerves it occurs. The excellent effect of opium in pure neuralgias, should have long since led to its administration in hyperæsthesia of other nerves; and would certainly have done so, had not various fears, which were based more upon theory than practice, deterred therefrom. That opium is not so

dangerous a remedy as it is generally represented in the manuals of *Materia Medica*, I have thoroughly convinced myself; and many of our German Physicians, at the head of insane hospitals, will agree with me, whose authority must be acknowledged by every one.

“Almost two thirds of all psychical maladies commence as hyperæsthesiæ. One of the most common is the hyperæsthesia of the *Nervus Vagus*, with greater or less participation of the sympathetic, in the well-known form of præcordial distress, which Fleming has so well described, and which, together with headache, he enumerates as the most constant symptoms of psychical disturbances. I have observed the præcordial distress in very different constitutions, as well of central as of peripheric origin, and always perceived good effects from opium.

“The result is surprising when this præcordial distress is connected with psychical hyperæsthesia, a condition which is usually designated as *hypochondriacal melancholy*. These patients are fearful tormenting spirits to the physician, because they cannot be dissuaded from their hypochondriacal ideas by any process of reasoning.

“A more numerous class of hyperæsthesiæ, which occur mostly at the commencement of psychical diseases, are the sensual. It is wonderful to what perversities patients are often led by this kind of alienation of the nerves of sense. A great part of the aversion to food occurring at the beginning of mental maladies, depends upon the hyperæsthesia of the glosso-pharyngeal or olfactory nerve. In food prepared in the ordinary manner, the patients smell and taste all possible singularities; when there is also simultaneously hyperæsthesia of other nerves, often of the vagus, they are sorrowful, anxious, distrustful, smell poison in their food, which increases and justifies their anxiety, and they begin to resist nourishment. Another complaint which we frequently meet with in patients of this kind, is that those about them know their thoughts. I have found this in many cases, where there was as yet no particular mental derangement; it is evidently a minor degree of hallucination of hearing, induced by hyperæsthesia of the acoustic nerve. Such a condition very commonly precedes the outbreak of peculiar hallucinations, as I have repeatedly observed in a patient who suffers periodically from hallucinations, of hearing. A short time before the particular hallucinations, he has the sensation as if his thoughts were expressed by those about him, only that he does not clearly hear the particular words, as is the case upon the full development of the hallucination.

“Most of the conditions which occur at beginning of mental diseases, may be referred to these hyperæsthesiæ which are usually designated by all sorts of other names—*nervous irritability, exalted nervosity, nervous derangement, &c.*

“When these hyperæsthesiæ exist in the manner just described, independent of any organic disease of the brain, manifested by anæsthesia, paralysis, &c., without the existence of any more serious affections of other important organs, of the heart, the lungs, the digestive apparatus, &c., which must be looked upon as the cause of the incipient mental disturbance, opium will do excellent service, and if it does not completely and permanently cure, it still effects an important allevia-

tion; but in the last-mentioned cases it does no good, and often may do harm.

"There is also another contra-indication, which is not, however, very frequently in the way; it is vomiting occurring after the administration of small doses. We need not be much disturbed, nevertheless, on this account, since no greater disadvantage is to be feared than that opium will do no good. I must especially insist, that a coated tongue and other gastric symptoms should not deter us from the use of opium, since this is observed in almost all cases of psychical disease, immediately at the opening of the scene, and very commonly occurring as the first expression of alienated nervous function. Opium allays these so-called gastric symptoms generally very quickly, enlivens the appetite, and stimulates nutrition better than all stomachics. There are individuals in whom there exists an idiosyncrasy against the smallest doses of this remedy, who become thereby more excited, in whom a new train of symptoms is induced, as palpitation of the heart, ringing in the ears, greater disquiet, complete sleeplessness; in these persons we should desist at once from the farther use of opium.

"Opium does excellent service, not only in melancholy, but in all other forms of psychical alteration which depend upon hyperaesthesia, if it is employed in the first stage of the difficulty; whilst in all psychoses of a torpid character, it produces little or no benefit."

**ART. 29.—*The Pathology of Delirium Tremens, and its treatment without stimuli or opiates.* By Dr. PEDDIE, of Edinburgh.**

(*Edin. Monthly Journal*, June, 1854.)

Dr. Peddie holds that delirium tremens is a form of *alcoholic poisoning*—or an alcoholism—that it is specific in its nature, and that it is analogous to plumbism, mercurialism, ergotism, or narcotism; and he considers, as entirely erroneous, *the opinion that the privation of an accustomed stimulus is the exciting cause of the malady*.

"Analogy," he says, "will not bear out this theory. Mercurial fumes, or the oxides of mercury, when long inhaled or absorbed into the body, as in the case of gilders, quicksilver-miners, and others, in the course of time produce an attack of shaking paralysis—the *tremblement mercurial* of the French pathologists; but will it be averred that the workmen long exposed are more likely to be affected with tremors, if removed from this poisonous atmosphere and occupation, than if they continued at their work? The reverse is well known to be the fact, not only in the case of such artisans, but of those also who are beginning to suffer in a somewhat similar way from lead poisoning. In both affections, when the symptoms are recent, a cure can only be effected by removal from the injurious occupation; otherwise the symptoms deepen with hourly increasing rapidity, until tremors are succeeded by sleeplessness, delirium, and ultimately coma."

The history of delirium tremens, in Dr. Peddie's opinion, is equally opposed to the idea that the disease is caused by the privation of a stimulus.

In a word, Dr. Peddie holds that the *exciting* as well as the predis-

posing cause is the habitual abuse of intoxicating liquors ; that these produce a specific form of irritation of the brain and membranes, the tendency of which is to arachnoid inflammation ; that the chief phenomena attending this disease are invariably uniform in their character, and distinguish it from every other affection ; that the occurrence of the salutary sleep is the normal termination of the paroxysm, indicating diminished activity of the cerebral circulation and functions, and the commencement of convalescence ; that the cordial and opiate treatment is generally pernicious, and frequently dangerous ; and that the main indications of cure are, to reduce the cerebral excitement by a moderate but decided and steady course of antimony, or other agent capable of exerting a somewhat similar influence, and thus favour—not force—the wished-for sleep, to soothe the feelings and dissipate the fears of the affected by kind and judicious superintendence, and the permission of light and liberty, and to support the physical strength by a moderate allowance of animal nourishment.

Dr. Peddie's experience in the treatment of delirium tremens has been considerable. He has treated, during the last ten years, "upwards of eighty cases of the genuine disease, many of them severe ones, with uniform success ;" and in the paper under notice he cites six of these cases in illustration. Of these the subjoined will serve as an example :

**CASE.**—Mr. B., æt. 48, spirit-dealer. Long an habitual drinker. His average daily amount for some time had been four gills of whisky and one bottle of beer, taken from early in the morning until late at night ; and there had been no diminution in the quantity previous to the present seizure. Had slept very little for a week, and none at all on the last two nights ; and for some days was very tremulous, and quite unable to transact business.

*1st day's visit, 3 P.M.*—Was very distressed and agitated during the last night,—walking constantly up and down through the house, terrified with visions ; had his last glass of whisky at 11 this forenoon. Pulse 104, small ; skin cool and clammy ; great muscular tremor ; tongue foul ; eyes yellow and lustreless ; mind constantly occupied with false and horrific impressions of all kinds, although in no very definite form ; but can answer a question put directly to him. *Instructions*—Plenty of light ; complete liberty to promenade through the house, the doors and windows being secured ; and two intelligent men to attend and humour all his fancies. To have a wine-glassful of the following mixture every two hours :—R Tart. Ant. gr. iv, Infusi Quassiae et Aquæ  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$  x, whether it caused sickness or not, and only to be discontinued if he should go to sleep. Beef tea and coffee with milk to be given occasionally. *8 P.M.*—Took one glass of the mixture at 3.30 P.M., which caused vomiting of a quantity of bilious matter ; one at 5 o'clock, which was followed soon after by a loose alvine evacuation ; and one at 7 o'clock. He is at present pale and perspiring ; very tremulous and restless—in constant apprehension of rats and strange men ; quite sensible when spoken to ; pulse 110. To have the mixture only every third hour. Beef tea, &c.

*2d day, 10.30 A.M.*—Pulse 106, very small ; perspiring freely ; face very pale ; urine scanty and high-coloured ; great tremulousness. He can put out his tongue, or rise up, or sit down when desired, but that is nearly the amount of his intelligence. He is in constant motion, not rapid or boisterous, but chiefly busy in arranging bed-clothes, carpets, small articles of

furniture, and sweeping imaginary crumbs from off the table. Had never been in bed, and had taken only three doses of the mixture since I saw him last. Took a glass from me, supposing it to be pale brandy:—no sense of taste. The mixture to be continued regularly. Was seen by my friend Dr. Cappie at 3 P.M., and again at 9 P.M., who found him much the same as when last reported. Had been purged several times. Antimony, &c., continued.

*3d day, 2 P.M.*—In bed, sound asleep; pulse 84, of good character; a good deal of subsultus tendinum; skin very moist; paleness of countenance gone. It was stated that he had appeared very much exhausted last night about 12 o'clock; was then got to bed, fell asleep almost immediately, and did not awake until 7 this morning. When awake he was not quite sensible, but took some bread, coffee and milk, and fell asleep again. Continued so for other two hours, and was then perfectly coherent, but not inclined to speak. He had some more breakfast and an egg, and went to sleep again. An hour ago he was awake for a few minutes, and took some beef tea. The antimony had been given once this morning:—to be discontinued. Nourishment only to be offered when he awakes.

*4th day.*—Found him quite well; mind perfectly clear, and had been able to read a little.

#### ART. 30—*On “Coup de Soleil.”* By Dr. H. S. SWIFT.

(*New York Journal of Medicine, July, 1854.*)

According to Dr. Swift's paper, deaths from this cause have been very common in New York during the past year. Of these cases the greater number exhibited no signs of cerebral congestion or apoplexy, death having happened from simple nervous prostration; and for this reason, he wishes to distinguish them from true cases of “coup de soleil,” which cases he regards as cases of cerebral apoplexy produced by insolation. In his opinion, the deaths in question were deaths which owed their origin to *exhaustion from heat*. There appears, however, to be unnecessary refinement in this distinction, and, so far as the term goes, there can be no reason why the *coup* of the sun should not cause death in both ways—by nervous prostration and by apoplexy. *Coup*, as a word, has no connexion with apoplexy.

Dr. Swift considers that a majority of the cases reported as deaths from “drinking cold water” are really occasioned by “solar exhaustion.”

Dr. Swift states his experience of “coup de soleil” as follows:

“The premonitory symptoms are usually slight, and of short duration. A labourer may, perhaps, have been employed until a late hour the previous night, and the next morning complains of a slight headache and a general feeling of langour. He takes his breakfast with less relish than usual, but resumes his ordinary duties. But, in the great majority of cases, even these slight symptoms are wanting. They are suddenly seized, while in the performance of their labours, with pain in the head, and a sense of fulness and oppression in the epigastrium, occasionally nausea and vomiting, general feeling of weakness, especially of the lower extremities, vertigo, dimness of vision, and insensibility. Surrounding objects appear of uniform colour. In a great majority of cases, this was, so far as could be

ascertained, blue or purple. In one instance, everything appeared red ; in another, green ; and in another, white. One stated that objects retained their natural colour, but expressed them as being very beautiful, while to another everything appeared greatly magnified.

“ This may be regarded as the first stage of the disease. It is usually of short duration. In the milder forms of the disease, the stupor is only momentary. The patient is at first, perhaps, aroused with difficulty, but he gradually regains his consciousness. If, however, the attack is severe, the patient shortly passes into a state of coma. The skin is hot and pungent to the touch, and by actual experiment, according to the observations of Dr. Dowler, the temperature is elevated to 112° Fahr. The pupils are dilated and insensible to light ; the breathing hurried and laboured ; the pulse is sometimes slow and full—sometimes frequent and feeble, though the action of the heart may continue inordinately strong up to the last moment of life.

“ In the third stage, the symptoms are those of collapse. The pulse becomes more frequent and feeble ; the respiration, which at first was hurried and laboured, now becomes stertorous, and accompanied with sighing and moaning ; the skin cool, or the surface of the body may retain its natural temperature, though the head may be hot ; the sphincters become relaxed ; extremities cold ; the countenance swollen and livid ; the pupils may be dilated, but are often firmly contracted ; tracheal râles appear ; either the patient is quiet, as if completely paralysed, or else convulsions, often violent in character, supervene, and he dies suddenly, or he may remain in this condition for several hours.

“ The first stage corresponds very nearly to that condition described by Southern writers as ‘ solar exhaustion.’ Dr. Dowler makes a distinction between this ‘ solar exhaustion’ (the *coup de soleil* of northern latitudes) and what he calls ‘ solar asphyxia.’ The former he regards as ‘ a mere fainting, in which the face is pale, skin cool, or not above the natural standard, while, in the latter, the skin is burning hot, face flushed, and the mind and body are utterly insensible to impressions.’ It runs its course rapidly, and often proves fatal in thirty minutes. Dr. Cartwright says, the cases of ‘ asphyxia are often incurable from falling into an *incurable* state before medical aid can be obtained !’ while those of exhaustion simply, if properly treated, will yield as readily as a case of common intermittent, but are almost as fatal as ‘ solar asphyxia,’ if improperly treated.

“ The second and third stages, described in the progress of the disease, are so intimately connected that it may seem an unnecessary division : but it is more convenient to regard them separately. They differ usually in the mode of attack, and for this reason some have regarded them as a distinct condition. The stage of collapse is most frequently noticed in those who are seized late in the afternoon, ‘ without the signs of apoplexy,’ after exposure to the heat and fatigue of the day. But the same condition may occur in those who have been seized suddenly ‘ with the signs of apoplexy,’ and yet pathologically there *may* be no difference.

“ Of 60 cases which came under my observation during the past year, 44 were insensible at the time of admission, and 16 were either

stupid or sensible. The pupils were dilated in 30, contracted in 19, and natural in 11. The temperature of the body was hot in 34, warm or natural in 14, and cool in 12; while that of the head was elevated in 31, warm in 11, and cool in 18.

"The respiration was hurried in 44; the pulse was uniformly accelerated, varying from 100 to 160, and even more per minute. Convulsions were present in 24, delirium was noticed in only a few. 52 of the patients were males. The average duration of the fatal cases was about four hours.

"The time of the attack in 3 cases was between 8 and 11 a.m.

"	"	40	"	"	11 a.m.	"	4 p.m.
"	"	17	"	"	4	"	9 "

"Convalescence is usually speedy. After the severity of the disease has passed, and reaction is fully established, varying from a few minutes to five or six hours, the patient sinks into a deep slumber, and awakes somewhat exhausted, and the cerebral functions disturbed; but this soon disappears. Two patients only complained of severe pain in the head, and at intervals exhibited great forgetfulness for nearly a week; and one was occasionally delirious.

"A case was reported to me in which delirium supervened, resembling that of delirium tremens. I can conceive that such a condition may exist, but this patient was intemperate, and had been drinking to excess previous to the attack.

"Dr. Pepper reports 20 cases, 10 of which died, and 3 resulted in insanity. This termination was not noticed in over 100 cases received at the New York hospital. In the reports of lunatic asylums, however, few cases of insanity are referable to an attack of *coup de soleil*. One patient was delirious, and with the greatest difficulty restrained.

"The statistical reports are too inaccurate to furnish any satisfactory data for the mortality of this disease, as no attempt has been made in the reports to distinguish it from 'cerebral apoplexy'; but this latter class is, I believe, less frequently met with than was formerly supposed; and that *their* number will somewhat diminish as the facilities for *post-mortem* examination are furnished, and that by far the greater number of cases included under the head of *coup de soleil* are nothing more than 'nervous prostration.' About one-half of the cases are usually fatal. The mortality of the past year will, however, be above this estimate.

"The total number of cases admitted to this hospital since 1845, is 150, of which 78 died. The mortality of the cases admitted in 1853 is 33 in 67.

"The mortality of hospital practice must be greater than that in private, as very many were admitted in a moribund condition, and died before any treatment could be adopted, while others were rendered hopeless by being brought a long distance, several hours after the attack.

"The prognosis will depend on the stage of the disease. In the first stage, the prognosis is usually favorable; much, however, will depend upon the treatment adopted. The symptoms indicating collapse are always unfavorable.

"In 33 fatal cases, the pupils were contracted in 20, moderately dilated in 7, and markedly so in 6; while, in the successful ones, the pupils were dilated in 19, and nearly natural in 15. No case recovered in which the pupils were contracted. Mere stertorous breathing is not necessarily fatal; but after the respiration becomes *sighing* and *moaning*, the prognosis is very unfavorable; only two patients recovered after this character of the breathing was present.

"To these two symptoms—the condition of the pupil and the character of the respiration—I attach much value; and if other observations shall confirm this, they will furnish the most reliable basis for prognosis.

"The respiration was sighing or moaning in 31 of the 33 fatal cases; convulsions were noticed in 24. This is a grave symptom, but 6 recovered after they were present. The pulse alone is no safe criterion of the actual condition of the patient, for it may continue of fair strength throughout the whole course of the disease, with no perceptible alteration either in force or frequency, though the patient may be under the free use of stimulants. This will frequently surprise those who are unaccustomed to observe it.

"A fatal relapse occurred in one instance. This patient was attacked suddenly while at his work, and lost all consciousness. As soon as he had sufficiently recovered, he walked a long distance to the hospital, exposed to the direct influence of the sun. This exertion, combined with his previous prostrated condition, probably induced another attack. He again partially convalesced, but immediately sank into a comatose condition, from which he did not rally.

"The pathology of this disease is uncertain. We have as yet failed to discover any satisfactory lesion to account for the phenomena noticed before death. It is now, however, generally admitted to be merely 'exhaustion' produced by fatigue—either in the sun, or, less frequently, in a close and over-heated apartment.

"The post-mortem appearances, though of a negative character, are precisely opposite those found in 'congestion' of the brain or apoplexy produced by insolation—in other words, *coup de soleil*. And it is of great importance that this relation should be correctly understood, for they obviously require an opposite course of treatment. Unfortunately these two conditions are too indiscriminately called *coup de soleil*. Our nomenclature, in this respect, is imperfect, and calculated to mislead those who are unaccustomed to observe it. But we must not infer, simply because a disease has been erroneously called *coup de soleil*, that we have apoplexy to contend with. 'It is debility we have to meet, and not repletion.' Depletion, which is essential in the one, is almost necessarily fatal in the other."

**ART. 31.—*Injury to the anterior part of the Brain, without loss of Speech.***  
By M. DECHANGE.

(*Archiv Belges de Méd. Milit.*, March, 1854; and *Gaz. Hebdom.*, July 7, 1854.)

This case derives its interest from the contradiction which it affords to a well-known phrenological dogma:

CASE.—A young man struck the back of his head violently against the ground by falling from a ladder into a cellar. There was a slight scalp wound in this part. He was brought into \_\_\_\_\_ hospital eight days afterwards, complaining of acute pain at the back of his head, and being somewhat incoherent. The sensibility and mobility of the limbs were unimpaired. The urine and the faeces passed involuntarily. *The speech was unaffected, articulation perfectly clear, and the movement of the tongue perfectly free.* In the same evening, the respiration became embarrassed, and death happened suddenly. On examination, there were found; 1st, a fracture of the occipital bone extending into the posterior condyloidal foramen on the left side; 2d, an effusion of blood under the membranes in the region corresponding to the fracture; and, 3d, “un rammollissement rouge très avancé des deux lobes antérieurs” of the brain, containing small clots of blood. The case is not given more circumstantially than is here reported.

ART. 32.—*On chronic and periodical Headache.*

By Dr. SIEVEKING, Assistant Physician to St. Mary's Hospital.

(*Medical Times and Gazette*, Aug. 12, 19, and 26, 1854.)

After advertiring to the physiology and anatomy of the circulation in the brain, Dr. Sieveking enters into the consideration of the *causa proxima* of cephalalgia, which he considers to be one of the following conditions, or a complication of one of the two former conditions with the third: a congestive state, an anaemic condition, and a vitiated constitution of the blood. Whatever the predisposing or exciting causes of an individual case may be, it is of primary importance to determine which of these conditions is present.

In doubtful cases Dr. Sieveking, says, “I have myself found dry-cupping a valuable aid, not only in the treatment of headaches, of which more hereafter; but it has assisted me materially in determining in doubtful cases whether headache was connected with repletion or emptiness of the intra-cranial vessels. When applied to the nape of the neck, it will, in the one case, afford more or less immediate relief; in the other, it will increase the pain and produce prostration and syncope. The inference from which is, that, in the former instance, the headache will be benefited by diminishing the contents of the vessels; in the latter by increasing their amount. The inconvenience of not always having a copper at hand, as well as the fear which the patients generally entertain of anything resembling an operative proceeding, has induced me to have a set of cupping-glasses fitted with a valvular apparatus of a very simple kind, by means of which and an exhausting syringe, I can rapidly produce a larger amount of rarefaction than can well be obtained by the ordinary proceeding. It has the advantages of being capable of exact regulation, and not of being accompanied by a flame, while it is very portable.”

About the ratio in which cephalalgia occurs in organic affections of the intra-cranial contents, as disclosed after death, Dr. Sieveking, says:

“Cephalalgia is a symptom of less frequent occurrence than we might have anticipated, a fact which negatively demonstrates the necessity

of additional care in attending to other signs indicating disturbance of the nervous centres. The analysis of authentic cases of this description also shows that there is no definite relation, except in the instance of the cerebellum, between the site of the lesion and the site of the previous pain. With a view to determining these points, I have gone through the cases recorded in Dr. Abercrombie's work on diseases of the brain, and Andral's fifth volume of that monument of talent, industry, and logical induction, the 'Clinique Médicale.' The results of the experience of the British and the French physician are numerically wider apart than we should have expected, though they coincide in proving that undoubted cerebral mischief frequently is unassociated with cephalalgia.

"We take first—by the laws of courtesy—the foreign author. He gives 108 cases in which death was manifestly due to intra-cranial disease, as confirmed by *post-mortem* examination; or in which, though the fatal issue was immediately due to other causes, the cadaveric section demonstrated coincident cerebral disorganization. Of these there were :

	Cases.	With Cephalgia	Without Cephalgia.	Doubtful.
Cerebral Disease . . .	94	38	54	2
Diseases of Cerebellum	14	7	7	0
Total . . . . .	108	45	61	2

Or if we divide the total number of cases into two great classes of apoplectic and non-apoplectic cases, taking cerebrum and cerebellum together, the numbers stand thus :

	With Cephalgia	Without Cephalgia.	Doubtful.
Apoplectic cases . . . . .	6	21	0
Non-apoplectic cases . . . . .	39	40	2
Total as above . . . . .	45	61	2

"According to the observations of this author, therefore, the ratio in which headache accompanies intra-cranial mischief is as 45 to 61, or nearly as two to three; if we subtract the apoplectic cases, in which this symptom is comparatively of less import, we obtain a ratio of 39 to 40, in other words, the frequency and absence of headache are almost equal, or, to use a sporting phrase, it is an even chance whether the inter-cranial disease is or is not accompanied by cephalalgia.

"The analysis of Dr. Abercrombie's 139 histories of inter-cranial diseases yields the results exhibited in the following table :

	Apoplectic Cases.	Non-Apoplectic Cases.	Total.
Cephalalgia positively stated . . .	18	74	92
,, absent, or not mentioned	23	15	38
,, doubtful (in children), or the history imper- fect . . . . .	2	7	9
	43	96	139

Here, then, taking the various affections together, we find the ratio in which headache is a concomitant of organic disease of the brain as 92 to 38, or nearly as 3 to 1; while, by eliminating the apoplectic cases, we obtain the still higher ratio of 74 to 15, or nearly 5 to 1.

"We cannot stop to inquire into the causes that determine so great a want of accordance between the two authors; it certainly is not due to any bias on one side or the other, because both are eminently impartial observers, and neither upholds any peculiar theory in regard to cerebral affections; nor can we suppose that the national constitution of the French and English habit of body is so different as to afford an adequate explanation of the discrepancy. Still the numbers given demonstrate that headache is an important symptom in the local affections of the cerebral system, while they also show, that its absence must not be regarded as trustworthy evidence of the immunity of the cranial contents. When we examine into the occurrence of headache in the individual varieties of cephalic disease, we see that the ratio varies considerably; it is comparatively rare, as we have already seen, in apoplectic disorders; here the cerebral tissue itself is commonly primarily involved. The cases of cerebral softening in which headache is absent also predominate largely over those in which it occurs; while the reverse is the case in meningeal disease, where the frequency of cephalalgia to its absence is, according to Andral's observations, as 4 to 3. This is in harmony with what we observe in all the organs of the body; for, it is a rule almost without exception, that disease affecting the envelopes is accompanied by pain in a severer form and more frequent ratio than when it seizes upon the actual parenchyma of the viscera. This point is also one that may be made available in estimating the probable locality affected in the chronic or periodical forms of cephalalgia. The relation of the envelopes of the brain, in a physiological point of view, to their contents, is even of more importance, if such a remark is justifiable, than in the case of most other viscera, since they serve not only for protection and for the facilitation of change of form and place, but are, at least in part, eminently the medium of nutrition. The liver, the kidneys, the spleen, the heart, the lungs, and the muscles, receive their supplies of the nutrient fluid by conduits that enter directly into their structure, by immediate vascular connexion with the nearest arterial trunk. The great bulk of the blood conveyed to the brain is, as it were, filtered through the ramifications contained in the pia mater, while it quits the organ in a less indirect course, though still in a much

more circuitous manner than commonly prevails elsewhere. Both the pia mater, therefore, as the arterial membrane, and the dura mater, *sit venia verbo*, as the venous membrane, claim our attention in a point of view distinct from that presented by the epithelial, serous, or fibro-serous membranes occurring elsewhere. I am far from asserting that we are able to localize every case of headache in any one of the intracranial tissues; but it is the more necessary to establish all the elements which may enter into the determination of the question, as it is one upon which we are comparatively, ignorant; and the whole history of medicine teaches us, that we can only arrive at positive results by minute attention to all the items constituting a complex of morbid phenomena."

Dr. Sieveking divides the exciting causes of headache into three chief categories: those directly affecting the brain, those proceeding from the chylopoietic viscera and the organs of nutrition, and those derived from derangement of the sexual system.

The treatment in each case is determined by the cause.

**ART. 33.—*Case of Facial Anæsthesia, with simultaneous destruction of the Eye.*** By Dr. TAYLOR, Surgeon to the Central London Ophthalmic Hospital.

(*Medical Times and Gazette*, 1854.)

Of the various points of physiological and pathological interest which this case presents, the most remarkable is the occurrence of the destructive inflammation of the eyeball simultaneously with the first appearance of the facial anæsthesia. In the well-known experiments of Magendie, which have since been carefully repeated by Valentin, complete division of the fifth nerve within the cranium, in rabbits, was followed by inflammation of the eye within twenty-four hours; but, in the human subject, where the anæsthesia is the effect of disease, the interval is much longer; in some instances, even when the paralysis of the nerve is complete, the eye remains totally unaffected; in others, the immunity lasts for many months, and it is very rarely that the interval is less than several weeks. These remarkable differences, which are as yet wholly unexplained, have led several eminent physiologists to maintain, that the disease of the nerve exerts no direct influence in producing the inflammation of the eye, but that the organ suffers secondarily from the irritation of dust or other foreign particles, the presence of which is unfelt, from the loss of common sensibility, or which, as Sir Charles Bell suggested, may remain unremoved, owing to concurrent paralysis of the eyelids. The fallacy of the latter suggestion is strikingly shown by the case under consideration, in which the fifth and seventh nerves were paralysed upon opposite sides, the right eye escaping all injury, though its eyelids could not be closed, while the left, that on the side where the fifth nerve was diseased, was destroyed. In an able paper, in the twenty-eighth volume of the 'Medico-Chirurgical Transactions,' Mr. Dixon has adduced much valuable evidence in favour of the correctness of Magendie's conclusions; still, in every case which has hitherto been recorded, the

long interval which has elapsed before the eye was affected, has afforded some countenance to the opposite opinion. So far as a single case bears any weight, the one now reported appears conclusive; for, taken in connexion with what has been already observed, it is impossible to consider the inflammation of the eye as merely a coincidence, and the rapidity with which it occurred excludes the possibility of its having been occasioned by any external irritation.

Eliza Martin, æt. 46, became an out-patient of the Central London Ophthalmic hospital, March 17, 1853.

Six months previously, after exposure to cold and wet, she had been confined to bed for a fortnight with a violent cold, and pains all over the body. On awaking one morning, she felt her left eye painful; on putting her hand to the part, she found that the feeling of the whole of that side of the face was gone, and on examining further, she discovered that the features were drawn to the same side, the eye bloodshot, and the vision impaired. The pain soon became very severe, radiating all over the side of the head and face, and in a few days the sight of the eye was completely gone. She was then received into St. Bartholomew's hospital, where she overheard her case—so far as the eye was concerned—described as one of abscess of the eye-ball. She remained in the hospital for six weeks, during which the pain completely left her, and the eye, which had been very prominent, returned nearly to its proper position in the orbit; the sight, however, did not return, and the eye looked, she said, as if there was something white in it. In the beginning of March the eye again began to protrude, but painlessly, and in a few days it burst, discharging a quantity of matter.

I found the left eyeball enlarged, filling up the orbit to its margin, and protruding considerably; the eyelids were swollen and livid in colour, and the conjunctiva was chemosed, pale, and flabby; the lower half of the cornea was gone; the upper, with a sharp and clean-cut edge, overlapped what appeared to be the remains of the iris; the opening into the eye was blocked up by a soft scab, on detaching which, and pressing gently, pus and discoloured vitreous humour flowed out; a probe was introduced through the opening, and moved freely about without being felt in the slightest degree; on examining microscopically what adhered to it, it was found to consist of pus and broken fibres of the lens.

The whole of the left side of the face supplied by the fifth nerve was insensible to such a degree, that she could merely tell when she was roughly touched, but felt no pain when pinched or pricked with the point of a pin; even this amount of sensibility she represented as being of recent occurrence; and on the forehead she had no feeling whatever. The anæsthesia affected equally the nostril, inside of the cheek, gums, roof of the mouth, and tongue of the left side. The skin of the upper lip at the entrance of the nostril was raw and excoriated, apparently by the thin mucous secretion which trickled over it.

The features were drawn to the left side decidedly, but not to a great extent; she said that a considerable improvement had taken place in this respect. She could not close the right eye; when she attempted to do so, the eye rolled upwards and inwards, so as to conceal the cornea, while rather more than a quarter of an inch of the sclerotica remained exposed. Neither could she close the lips, from the left corner of which, owing to its being rather more depressed than the other, there was a constant dribbling of saliva. The left temporal and masseter muscles remained perfectly passive during mastication; on the right side they acted in the usual manner. She was

unable to use the left side of the mouth in eating. The food accumulated between the teeth and the cheek, and remained there till it was pressed out purposely; and as, from the absence of sensibility of the parts, she was unconscious of its presence, it was sometimes allowed to remain until it became offensive. There was no accumulation of food in the right cheek in eating. The left side of the tongue was much atrophied, being not more than half the size of the right; it was protruded towards the left corner of the mouth. Neither the uvula nor the soft palate appeared to be implicated in any way.

As the patient unexpectedly discontinued her attendance at the hospital, the opportunity was lost of examining minutely into the state of the senses of taste and smell; the former, she said, was completely gone on the left side, except towards the back of the mouth, and as she was in no way prompted, this answer may be considered as satisfactory to a certain extent; the sense of smell, though blunted on the left side, was never altogether lost. The hearing of the left ear was not at all impaired, and this was the more evident, as she had been completely deaf on the right side for several years. Her speech was very indistinct, apparently from her inability to articulate the labial sounds, owing to the paralysed state of the lips.

I had another opportunity of seeing her very recently. The eyeball had shrunk into a small stump, marked by the action of the muscles; she had severe neuralgic pain in it some time ago, which lasted for about ten days, but, with this exception, it has been free from uneasiness. The sensibility of the face is slowly returning in parts; on the eyelids it is perfect; on the lower part of the cheek it is little inferior to that of the right side; on the forehead and side of the nose it is not at all improved. The skin of the upper lip is still excoriated and slightly ulcerated; the sensibility of the nostril is much improved, and the sense of smell is nearly as acute as on the other side. There has been no change in the state of the mouth, except that the gums are somewhat swollen and unhealthy, and the left side of the tongue has, if anything, slightly increased in size. The sense of taste was more carefully inquired into, and her former statement found to be correct. The features are now quite straight, but the lips and the right eyelids remain paralysed as formerly; when she attempts to close the former, the muscles of the chin, on the left side, are seen quivering under the skin. When she uses the jaws in mastication, the temporal and masseter muscles of the left side are now felt to swell under the finger, but less firmly than those of the right side, and not quite synchronously with them; the muscles of the right side act first, and then, after an appreciable interval, those of the left.

The suddenness with which the paralysis occurred, and the fact that the nerves of both sides were affected simultaneously, render it probable that the cause was an effusion of blood at the base of the brain. The situation of the lesion, whatever may have been its nature, is accurately pointed out by the symptoms which it produced, which indicate that both roots of the fifth, and the hypoglossal nerve of the left, and the seventh nerve of the right side, were the parts implicated. The complete paralysis of the orbicularis oris might at first sight lead to the idea that the seventh nerve of the left side was also involved; but, as this was the only muscle under its control whose power was at all impaired, some simpler explanation will probably occur to those who are conversant with nervous pathology.

**ART. 34.—*Hydrochlorate of Ammonia, as an internal remedy in Neuralgia.*** By Dr. EBDEN, of the Bengal Medical Service.

(*Indian Annals of Medical Science*, April, 1854.)

Carrying out Dr. Watson's recommendation, Dr. Ebden has tried this remedy "in a great many instances and cases, and with, almost invariably, satisfactory results." He writes:

"In facial neuralgia, tic-douloureux, nervous headache, toothache, clavus-hystericus, and in affections of this neuralgic kind generally, and not excepting sciatica, and even in one case of neuralgic dysmenorrhœa, I have often given it, and have been convinced, after a full trial of its merits, that it is decidedly a very valuable and powerful remedy for the relief of neuralgic pain generally.

"I usually prescribed from twenty-five to thirty-five grains of the salt in an ounce of mint water, or camphor mixture every twenty minutes, for three doses, giving, if required, a saline aperient with the first dose. The second dose is usually sufficient for the relief of the immediate pain; but I have observed that where it has been necessary to repeat and continue the doses, the patient has, in many instances, afterwards enjoyed a comparative immunity from the recurrence of pain; and therefore have I, in some cases, been led to continue the exhibition of the muriate systematically at six or eight hours' intervals for some days. From memoranda of many satisfactory cases, I am induced here to select the particulars of two, in which the good effects were great and marked."

1. In June, 1850, at Simla, a lady of somewhat delicate frame, æt. 35, suffered very severely from an attack of facial neuralgia, an affection to which she was very subject. She had travelled all over Europe, and had in many large cities consulted professional savans on this disease to which she was so great a martyr. No advice had benefited her, "no doctors' stuff yet had ever given her any relief." After some persuasion, but with no hope on her part of success, she was induced to try the muriate in full doses. While in actual agony, she took the first 30 grs. with marked relief, in ten minutes' time; the second dose *quite* removed all pain. She has never since had any return of her old enemy, for now she wards off every threatening attack, with a dose of "the ammonia muriate" solution, with which she is always now provided.

2. A clergyman who had suffered terribly from "nervous headaches" coming on at all times, but having apparently no other disorder of his general health, had consulted many medical men, and taken many remedies. Early in 1851, he tried the ammonia with the immediate relief to the present attack, and with very great *alleviation* of many subsequent headaches. He, too, managed to ward off very many attacks by taking 30 grs. of the muriate whenever the pain threatened; and he was rendered, after some few days' treatment, very much less liable to them, than he had previously been for many years.

ART. 35.—*Cases of Hydrophobia.*

By (1) Dr. TODD; (2) Dr. ROWLAND; and (3) Dr. HUGHES.

1. (*Lancet*, Sept. 9, 1854.)
2. (*Lancet*, Sept. 23 and 30, 1854.)
3. (*Medical Times and Gazette*, May 27, 1854.).

These three cases form a most valuable contribution to the comparatively small stock of facts belonging to this very obscure and fatal disorder.

1. *Dr. Todd's Case.*—George G——, æt. 36 years, a colourman, was admitted into King's College Hospital, June 25, 1854. He had been bitten on the left hand by a rabid dog three months previously, and no precautionary measures had been adopted to obviate any evil effects which might follow. About eleven weeks after the bite, and after a period of night-watching over his wife suffering from smallpox, he complained of extreme depression and weakness, which he attributed to want of rest. Two days before his admission into the hospital he was so exhausted that he was obliged to cease his work sooner than customary, and on attempting to drink sour beer he experienced a choking sensation. He swallowed some, however, retired early to rest, and slept till morning. On rising in the morning, and endeavouring to drink some coffee, he again experienced a choking sensation. On admission to the hospital, he answered questions rationally; the face was pale; pupils dilated; mouth open, with the lower lip dropped, and the upper occasionally twitching. The forehead was covered with a cold clammy sweat, the countenance had an anxious expression, and he was perpetually swallowing. He complained of headache, and said that the gullet felt as if clogged up with something like paste, which he could not swallow, and that he dreaded spitting, as it brought on as severe a fit as drinking. The slightest draught of air threw him into a spasm exactly resembling the state of a man under a shower-bath, when the water first strikes down.

He asked for water, and then turned to a patient, and talked very quickly, as if to lead away his mind from the consciousness that water was coming—glancing occasionally and nervously round to watch the nurse's movements. When the water was put before him, his face became congested, and his whole body shook; his features began to work like those of a man in an epileptic fit, beads of perspiration trickled down his face, he made a sort of sobbing noise in his throat, threw up his trembling hands as if to motion away the glass, when, with a powerful effort, he snatched it with both hands, lifted it to his mouth, and threw some of the water down his throat. Then the violence of the spasm was redoubled for a few seconds, and he sank back exhausted, like a man who had been undergoing a severe bodily exertion. His mind was perfectly clear, and he seemed a very sensible kind of man.

Ice was given to him, which he swallowed with immense effort. The sobbing seemed to originate in spasm of the glottis. Beef-tea enemata, and five grains of quinine every second hour were prescribed.

The use of ice relieved him greatly, and he became able to hold a glass of water in his hand, and look at the fluid, but although complaining of fatigue and longing for sleep, so soon as drowsiness stole over him, some breath of air brought on spasm, and he started up, dreading suffocation.

On the morning of the second day, he was more irritable, spit a good deal, and sobbing respiration was almost constant. The countenance was pale and

more anxious and distressed in expression, and he refused the enema, as it excited spasm. Pulse 128.

During the afternoon he became more violent, attempted to jump out of the window, spit at every one, attempted to bite, and was very fierce. After his dash at the window, the poor man was secured, and chloroform administered. Subsequently the spitting became excessive, and he tried to bite his own hands, the sheets, &c.

Equal parts of beef-tea and wine were administered by the stomach-pump, and quinine and opium by the rectum, and he was kept under the influence of chloroform for eight hours, one drachm being used at a time. When, occasionally, allowed slightly to recover from its influence, spasms of the neck immediately occurred. There was slight episthotonus; towards 10 p.m. he began to vomit a dark matter like the black vomit of yellow fever. He voided a great deal of it, and the fluid at last choked him.

*Post-mortem examination about sixteen hours after death.*—All the results of the post-mortem examination were of the most negative character, and it seems not improbable that an extreme degree of congestion of most of the organs—brain, spinal cord, lungs, liver, kidneys, &c.—which was almost the sole perceptible morbid change, was due, in great measure, if not entirely, to the large quantity of chloroform continually inhaled by the patient during the last eight hours of life.

A most careful, general, and microscopical examination of the nervous centres, by Dr. Todd, showed no appreciable change from the healthy structure; and of the viscera, excepting the congestion, the liver and kidneys alone presented indications of structural change, the cells of the former being white, granular, and opaque, very few of them containing oil, and the nuclei indistinct; some of the tubes of the latter contained a fibrinous plug, and the renal epithelium was less defined, whiter, and in some tubes less bulky than usual. Certain granular tube-casts observed in the urine shortly before death, were regarded by Dr. George Johnson as coming from “the epithelial cells,” and not from the Malpighian bodies—a result of a modified nutrition of cells.”

## 2. *Dr. Rowland's Case.*

Eliza Ann F—, æt. 11 years, of a nervous excitable temperament, was admitted into Charing-cross Hospital, July 3, 1854.

On the 30th of May she had been bitten on the face by a dog, which at the time was after a bitch in heat. The dog seized her on the bridge of the nose with the upper jaw, and on the inside of the upper lip with the lower jaw. *The animal had shown no symptoms of rabies anterior to this period, neither have any symptoms of that disease appeared since.* No precautionary measures were adopted.

On the 2d of July (thirty-two days after the injury), the girl showed a disinclination to take tea. She refused her supper, complaining at the same time of sore throat, and went to bed as usual. On the next morning, at about 3 a.m., the mother, who slept in the same room, was awakened by the child sobbing violently. Thinking she was under the influence of a dream, she awoke and soothed her, after which the child slept till about 5 a.m., when the sobbing returned, accompanied by slight spasmotic twitchings of the limbs. As the girl was frequently in the habit of being awakened by dreams during the night, the real cause of her restlessness was not suspected; the mother quieted her again, and laid her on the bed, where she remained till called at half-past 8. She evinced a great disinclination to rise, saying that her legs, arms, and head were aching, and complained of pain on the inner side of the upper lip. On attempting to stand she seemed unable to

walk, but being gently shaken, she revived, and went into the yard to wash, as usual. She stated that her throat felt as if she had hurt it, and that this uneasiness had existed for some days. Thinking she was gone a long time, the mother went out, and found her standing in the yard unwashed. She inquired the reason, and the child answered, "I can't! I can't! indeed, mother!" The latter begged the child to try, on which she made an effort, but was at once seized by a convulsive fit, and unable to accomplish the ablution. The patient then came in to breakfast, and on refusing her tea with the same convulsive horror, and complaining of soreness of the neck, the true nature of the case was suspected. The child was strongly impressed, after the accident, that she should go mad from the bite.

*State on admission, at 12 a.m., on Monday, July 3d.*—Expression of countenance, anxious and watchful, more like dread of something going to appear; face pale and intelligent. The patient is of spare habit; hair light-brown, fine and long; has been brought up at a Sunday school; talks distinctly, and has full use of mental powers. Pulse natural; tongue steady and clean; bowels open yesterday morning; pupils dilated; skin hot, dry. Mr. Diamond, the house-surgeon, poured out a little of the tonic mixture kept ready; but when offered to her she refused to taste either this or water. She had at the same time spasmodic action of the muscles of the trunk and upper and lower extremities, accompanied with sobbing and sighing, as when a person unaccustomed to douching has a bucket of cold water thrown over him. Blowing on the face produced the same effects as the showing of water. When the patient was gazed at for some time the anxious look would go away, and break into a smile. The mental powers were preternaturally heightened.

A draught, composed of fifteen minimis of chloroform, ten of laudanum, in announce of water, was now offered, but the sight of it caused the convulsions to come on again. The house-surgeon at last succeeded, by getting her to close her eyes, open her mouth, and at the same time gently expiring, he placed the fluid suddenly into the mouth with a spoon; but directly it was in the cavity the convulsions came on again more severe than before.

Half-past 12 a.m.—Dr. Rowland saw her, and ordered fifteen minimis of chloroform, to be taken every third hour, and at half-past one o'clock he prescribed a small dose of calomel, to be followed by an enema of turpentine and castor oil. The back was also to be rubbed with equal parts of chloroform and tincture of aconite.

Great difficulty was experienced in giving her the calomel. It was tried mixed up with a little sugar in a teaspoon; she took it into her own hand, but when she got it close to her mouth the spasmodic convulsion came on. It was at last tried, at Dr. Chowne's suggestion, placed between bread and butter, and was thus ingested. When she had eaten it all, she asked for more, and thought she could drink a little warm water, but she could not take it when presented. It was tried through a silver tube, but without success, and the attempt to give an enema also failed. The application down the spine directly brought on convulsions, and at the first application she threw herself on all fours, like an animal.

Half-past 2 p.m.—Prefers sitting up, the thighs flexed, with the elbows resting on the knees, the hands being placed at each side of the head. When requested to lie down, she says she feels easier when in the position just described, and that if she attempted to recline the cold would hurt her back. To remedy this, the sheet was warmed, and with a little persuasion she gently overcame the difficulty, as she is very willing, and attempts to do anything you propose to her. Immediately on lying down she has, however, an attack, though enjoying the full use of her senses.

Pupil dilated ; tongue whitish ; skin hotter, dry ; pulse quick, 140.

3 p.m.—Has pain at the top of the head. Is lying down with her hands pressed at the sides and at the back part of the cranium ; says she is easier so. Complains very much of a painful stiffness at the back part of the neck. Convulsions, which occurred once every half-hour, are more frequent and severe. Expressions more wild and anxious. When asked to glance at a looking-glass, she complied, and directly she caught sight of herself the fit was brought on ; soon after this she passed a little pale urine.

Half-past 4 p.m.—Asleep ; looks very wild and anxious ; breathing in a sobbing manner.

5 p.m.—Her father is with her ; she looks much altered ; convulsions brought on by the slightest breath ; is very pleased to see her mother ; holds her hands, and does not want her to leave her.

Half-past 5 p.m.—Has eaten some bread and butter ; feels very thirsty, but she says it is no use trying to drink, as it will choke her. A window open at the end of the ward causes too much atmospheric disturbance for her. Cold applied without wind does not produce much effect. She is much worse, the attacks being more frequent.

Half-past 6 p.m.—Fits much stronger and more frequent, being four or five in the quarter of an hour, and causing some difficulty to the nurse to keep her in bed. *She is asking if the dog has been killed yet.*

7 p.m.—Is now in a very strong convulsion. She is given to inhale, on a piece of lint, about one drachm of chloroform, and after a little trouble and persuasion, she took the lint into her own hand and held it under her nose. This soothed her considerably, so much so, indeed, that when it had all evaporated she asked for more. Mr. Diamond kept on with this continuously till—

8 p.m., when Dr. Rowland again came to see her. The latter tried to put her completely under the influence of the anaesthetic agent, but failed, as had happened to the house-surgeon previously. At this time it was difficult to apply the aconite to the back, for when she sat up, which was the only way to accomplish the frictions, the convulsions came on again, as severe as they had done before the chloroform was inhaled, directly an attempt at rubbing was made. She violently threw herself back, and said, “Don’t do it any more—I shall be better presently.” Ice was also given her by her mother, but she would not take it on any inducement, giving as a reason that her brother used frequently to give her ice after he had had it in his mouth, and she had therefore taken a dislike to it.

9 p.m.—She complains of a severe pain, referred to the epigastrium and throat ; convulsions worse during the last half-hour, occurring violently every two or three minutes. The mention of water, or the disturbance of air caused by the clothes of the attendants, bring on a paroxysm immediately.

Half-past 10 a.m.—Convulsions worse ; has once or twice started up in bed suddenly in the standing position, and then thrown herself again forcibly on her back.

Half-past 11 p.m.—Passed about a pint of limpid urine ; is much quieter ; has begun again with the inhalation of chloroform ; pulse small and quick ; suddenly sits up in bed, and then throws herself back ; cannot bear her mother to leave her or let go her hands ; complains greatly of the pain in the back of the neck and epigastrium ; skin hot and moist.

Second day, 1 a.m.—The paroxysms during the last hour have become less frequent,—only three or four times, except when she is excited by the sound or mention of water. The chloroform was again given her on lint to inhale, but, as she had a repugnance to it, it was not pressed. The patient has

evinced slight aberration, fancying herself at home. She has shown an inclination for milk and an orange; but, although she attempted several times with her own hand to take it, each time she placed it near her mouth the violent spasm took place.

2 a.m.—Better; only one paroxysm during the hour; impression of being at home increased; asked her mother to bring out her bedclothes; has had a few minutes' sleep.

3 a.m.—Fits much more frequent; jumped up suddenly on her feet, and voided a small quantity of very offensive fæces; constantly asking her mother trivial questions about her toys, workbox, &c.; great dread of her parent leaving her side for an instant; constantly repeating her pleasure at the dog being killed, (*which circumstance had previously been told her, though incorrect, in order to quiet her:*) complains of very great pain in the epigastric region; for several minutes is unable to complete a sentence, being interrupted by the fits; complains of great heat; wants her clothes and bedclothes taken off; distressing anxiety for fear her mother should leave her, turning every instant to see if she was still present.

Half-past 3 a.m.—About this time again passed a small quantity of black offensive fæces, and started up suddenly, just as previously; is inclined to be sick; pain in the epigastrium and throat increased; says she is hot and bad; pulse small, occasionally intermits; skin moist.

4 a.m.—After a retching attack, the patient spat out a thick white viscid saliva, which hung like a drop tenaciously to the lower lip; this continues frequently, and is always preceded by retching; convulsive paroxysms more severe and frequent. The child's body performs violent writhing movements; the head is thrown back, and the extremities are in violent motion; she occasionally catches hold of the bedclothes, and fondles them tightly: has left off the sitting up in bed; when this occurred, she always threw herself back with a violent effort, she could not do so quietly.

Ten minutes past 4.—Retching and convulsions more severe; saliva increased; looks at times very wild and vicious; the mother has started back two or three times, afraid of her; delirium increased; calls the house-surgeon "Henry;" says a strange dark man is coming up stairs; wants the street-door shut. The retching for the last five minutes was continuous, and is so now, beginning with a peculiar eructating noise; has just had a kind of suffocative attack, lasting for nearly half a minute, which seems to have prostrated her much. Since then the paroxysms are weaker; delirium increased.

Twenty minutes past 4.—Looks more wild; says she is mad because the dog bit her; complains of great pain in the throat; eyes sunken; expels her breath through her nostrils with a snort, but takes it in through her mouth; the inspiration is short, expiration quick and forced; has had no retching for the last five minutes till just now, and has vomited up a little matter like thin gruel. Says, "Let's cut our throats!" and is now saying the Lord's Prayer.

Half-past 4.—Has been for the last ten minutes continuously delirious; talks most about blood, and articles of dress being red; says, "We all look red," and then "We are all white;" no retching; spits a little saliva occasionally; the peculiar eructating noise is still present; recites verses.

Half-past 5.—The convulsive paroxysms, which are nearly consecutive, consist mostly in rigidity of the back, neck, and inferior extremities, which latter are sometimes kicked up and down; the arms are moving continuously across the chest; sickness has become more frequent; she is much weaker after several of the suffocative attacks; the breath smells earthy; delirium nearly continuous; talks much of fire, blood, dress, and riches; hands and feet cold and purple-coloured.

Quarter to 6.—Sickness, which had stopped for about a quarter of an hour, has come on again; the matters vomited are greenish, watery, and frothy; the convulsions are more like a very exaggerated fit of shivering, excepting the rotatory motion of the arm; the back is quite stiff.

Ten minutes past 6.—Pupils widely dilated; is in a profuse sweat; extremities are hot again; vomiting, which had stopped for a few minutes, has come on again, and is yellow and watery. Pulse 140. Surface of the body moist; is much more exhausted; sighing has come on nearly continuously; is talking of heaven; and connects words in rhymes.

Half-past 6.—Is much worse; paroxysms weaker; delirium nearly continuous; tries to scratch; says she must catch the bystanders, but is unable to move out of the flat position she is in.

Ten minutes to 7.—Sickness and convulsions continuous; delirium more of a muttering character. Pulse very small and thick. The head is bathed in perspiration; the hands and feet cold and dark-coloured; the right cheek has a greenish look; the lips are dark; the eyes are fixed upon the persons watching her; she vomits continuously.

Quarter past 7.—Pupils widely dilated; colder and more purple; vomiting still continues, seems to choke her, not having power to get the fluid out of her mouth; mutters more, so as not to be so easily understood.

Quarter to 8.—Sobbing constantly; convulsions are similar to severe shivering; is becoming comatose; cannot answer any questions; muttering delirium.

Quarter past 8.—Is sinking fast; always sobbing; arms continue to move occasionally, with convulsive starts of body.

9.—Low muttering; delirium; foams at the mouth; pulse hardly perceptible at the wrist; slightly over cardiac region.

Half-past 9.—The sobbing continues; occasional convulsive starts; is quite comatose; pupils widely dilated; foams at the mouth; no pulse at wrist; extremities are warmer than the surface of the body; clammy perspiration.

Quarter past 10 p.m.—Died suddenly; looks like a child who has been suffocated. Pupils dilated; body much warmer than it has been for the last three hours, and bathed in moisture. Urine, under microscope, presented a great number of blood-corpuscles, (specific gravity 1.011;) pale.

*Post-mortem Examination.*—Membranes of the spinal cord very vascular; spinal fluid very transparent; vascularity of cord general. Brain: General venous congestion, substance soft; nothing worthy of notice in the medulla oblongata. The papillæ of the tongue were much elevated and large, especially at the root of the organ; the mucous membranes of the pharynx and larynx, as far down as the œsophagus and glottis, were red, thin, and loose, and marked by a circumscribed transverse line about the base of the arytenoid cartilage. Most of the organs of the chest and abdomen were healthy; the blood was very fluid and very dark coloured, the upper lip being livid and discoloured, as with persons who die from submersion.

### 3. *Dr. Hughes's case.*

Thomas Spink, a very muscular young man, æt. 19, was admitted into Guy's Hospital, May 15th.

*Previous history.*—The father of the young man was by trade a bricklayer, and his son had worked partly with him and partly as a "tumbler" at fairs. Five or six years ago, the boy, then aged about 13, had been severely bitten in the left leg by a strange pointer bitch. The dog had puppies at the time, and the occurrence took place in the road. The father of the boy wit-

nessed the occurrence, and remembered it well, because he had afterwards to dress the injured part. Nothing whatever was known as to the history of the dog. After the wound had healed, the boy never again complained of it, and he manifested no alteration in temper or manner. He was usually of quiet habits, and not much addicted to drink. He had always lived at home, and the father felt certain he should have known if any bite, wound, or other injury, had occurred to him since the one mentioned. He had enjoyed excellent health, in every respect, until Friday, the third day previous to his admission. On the afternoon of that day (he had been staying at home, being out of work,) he went to sleep, and woke up in the evening, appearing disturbed, and stating that he had had a very bad dream. He afterwards took some tea, and then went out for awhile. At night he complained of a severe headache. On Saturday, he still complained of not being well, but, in the afternoon, walked with his father a distance of some miles, to "tumble" at a neighbouring village. Late in the evening he commenced the practice of his evolutions, but, after having stood once on his head, complained that it had hurt him so, that he must give it up. During the walk home, his father noticed that his limbs seemed weak, and the journey took them many hours. Throughout Sunday he stayed in the house, still complaining of "splitting headache," and appearing very ill. He could, however, swallow fairly, and had no noticeable difficulty in doing so. Late in the evening, he got up, and went alone to a neighbouring public-house to get some beer, which he drank, but, as the landlady who served him afterwards stated, with the greatest difficulty, as "it seemed as if it would have choked him." On Monday morning he said he could not drink, and took only a little sopped biscuit, which he appeared scarcely able to get down. In the afternoon of that day the attacks of spasm began to occur. He exhibited the greatest terror of some impending mischief, although perfectly conscious. A medical man who had been sent for, entering the room, he begged him not to approach, as he could not, he said, help striking him if he did. These symptoms becoming rapidly aggravated, he was, conveyed to the hospital late in the evening.

*Present history.*—A message had been sent by the surgeon in attendance, requesting that some one would come to his house, in order to administer chloroform, previous to his removal to the hospital, as the spasms were so violent, that he thought great difficulty would otherwise attend the attempt. A dresser accordingly went to the patient's house for that purpose; but, finding that the chloroform seemed only to excite him, its exhibition was desisted from. During the journey, which was only a short one, every breath of air appeared to excite the most violent spasm about the throat. At first sight there was a wildness about the patient's expression, and an appearance of terror and alarm, which those who had ever before seen a case of hydrophobia could not mistake. The least breath of air threw him into a violent paroxysm of spasm, which appeared mainly to affect the pharynx, but in which the head was also thrown back, and there seemed some tendency to opisthotonus. His conversation was generally wild and incoherent; but he could, when more quiet, answer questions, and stated his age and name, but, as it was afterwards found, not quite correctly. He complained of much pain in the left leg; and immediately below the knee, on that side, was the scar of an old bite. There was no lock-jaw whatever; but, although he appeared very thirsty, and anxiously attempted to drink, yet he could not swallow a drop of fluid, violent spasm being immediately produced by the attempt. There was much adhesive and frothy saliva about his mouth, which he was constantly endeavouring to spit out. Gasping eructations frequently occurred, but there was no actual vomiting. He was in the greatest alarm

and appeared from his expressions to be in fear that it was intended to murder him. Respiration was constantly attended by sighing efforts, and almost by shuddering, his condition in this respect much reminding the bystanders of that induced by a sudden plunge up to the neck in cold water. At first it was not thought necessary to confine him, but afterwards it became needful to do so, as on one occasion, watching his opportunity, he had thrown himself out of bed, and sprung violently against a window which was near. After this, his arms were tied down to the sides of the bed. His pulse was rapid, and subject to sudden alterations in frequency, varying in the course of a few minutes from 100 to 130; the skin was warm and moist, and the pupils widely dilated.

The remedy first tried was the Indian hemp, the extract of which (obtained fresh from Squires') in the enormous dose of ten grains, was exhibited by injection into the rectum. The first quantity was almost immediately expelled, but the second was retained. It appeared, however not to exert the slightest effect in controlling the tendency to spasm. The paroxysms continued to recur almost constantly, and were induced by the slightest causes. At about 2 o'clock, a.m., it was decided to exhibit chloroform. The man resisted the attempts to make him inhale it, tossed his head about (he was strapped down), and even made an effort to bite the hand of the administrator. The first effect was to excite and render the paroxysms much more violent and constant; as insensibility was induced, however, the tendency to spasm subsided, and ultimately the patient lay quite quiet. It was noticed that his pupils, which previously had been widely dilated, contracted when under the influence of the chloroform. The inhaler being removed, it was found that the effect of the anæsthetic was never prolonged more than a few minutes at a time, after which the spasms again began to occur. With short intermissions the patient was kept under the influence of the remedy for more than an hour, when, on account of the extreme collapse, it was deemed necessary to suspend it. The pulse was now not perceptible at the wrist, and the surface was cool and clammy. After the chloroform was laid aside, some returns of spasm took place, but not violently; the pulse never became perceptible, and the patient, after gradually sinking, died about a quarter to 4 a.m. A few hours previous to death, there had been noticed some emphysema of the cellular tissue in the root of the neck, caused, no doubt, by rupture of the trachea or some part of the larger bronchial tubes during spasmotic closure of the glottis.

*Autopsy, twelve hours after death.*—There was great *post mortem* rigidity, all the muscles being hard. With the exception of the hands, which were rigidly flexed, there was no distortion of any of the extremities. On opening the head, the veins or the meninges were found full of blood, and the brain substance itself presented a little more of vascularity than is seen in the average of examinations. The whole of the pharynx was deeply congested, and of a slight bluish tinge; the boundary of the congestion was definite, and terminated at the commencement of the œsophagus. The tonsils were of usual size. The left side of the heart was firmly contracted, and the blood was universally fluid. The posterior parts of the lungs were loaded with blood, and some parts presented the characters of incipient lobular pneumonia. There was interlobular emphysema about the root of the left lung. The cord was taken out, but, with the exception of some very questionable softening of a part in the middle dorsal region, it presented nothing morbid. Beyond general congestion of the abdominal and thoracic viscera, distension of the intestines with gas, and a dry condition of the peritoneal surface, no other departures from the healthy condition were observed. The surface of the

corpse was carefully examined for any traces of recent wounds or abrasions, but none were discovered.

### ART. 36.—*On Hydrophobia.* By Dr. ZIMMERMAN.

*Casper's Vierteljahrsschrift für gerichtliche Med.*, Bd. 4, Heft 1; and *Edin. Monthly Journal*, Oct., 1854.

During 1851 and 1852, an epidemic of hydrophobia raged in Hamburg having come there with the Austrian troops from Jutland, where it originated in 1850, through Schleswig and Holstein. 267 cases occurred, 125 in the town itself, most of them shut up and closely observed. Cases of both raging and dumb madness occurred, both apparently depending on the same poison. Dr. Zimmerman gives a good account of the post-mortem appearances; as these differ in no respect from those formerly published in this journal, we pass to a more interesting point, viz., its communicability to man. He knew of thirty people bit by mad dogs, not one of whom became hydrophobic, not from treatment preserving them, for only a few were treated, and they only with the usual external appliances, and he and his friends heard of many more who had likewise been bitten without any bad consequences, and without employing any, even the simplest, preventive measures. In fact, during the whole course of the epidemic, the only man who became *hydrophobic*, and died from it, was bitten by a dog *not mad*. The dog was killed, and examined by veterinary surgeon Schräder, who had made 120 dissections of dogs during the epidemic, and who distinctly asserted there was little or nothing wrong with any organ in the body, and certainly not a trace of the appearances proper to *rabies canina*. Zimmerman says, that in all known cases the disease found its origin only in the bite of a dog already mad, and that other animals, as horses, so bitten, likewise became mad. The last opinion seems to require confirmation; the former is not borne out by his facts of fifteen dogs bitten by a known mad one, of which two only became mad; two ran away, eleven remained healthy. He instances also the gradual dying out of the epidemic, after orders had been given to destroy all dogs found at large; but surely this cessation was to be expected at any rate, after a nearly two years' duration of the epidemic, and the destruction, moreover, of 1100 dogs. The fact also of the dogs inhabiting the islands of the Elbe, escaping while all the neighbouring country was ravaged by the disease, at the most only shows the disease to have been contagious, and does not necessarily show the bite to have been the means of rendering it so. And, besides, such unaccountable immunities are continually presenting themselves even in diseases known to be epidemic, and we here use the word as the contrast of contagious; while the escape of at least eleven out of fifteen bitten by a dog known to be mad, shows that even to its own species the bite is not so fatal as supposed; and to man, how much less. He does not believe that an animal poison can remain latent and local for days or months, and then develop itself. He is likewise of opinion that hydro-

phobia in man possesses no characters common to that of the dog, but is truly a species of tetanus, and probably often produced by mental emotion ; though, doubtless, the bite of a mad or even angry dog may cause it,—both from fright, and also, from some alteration in the fluid of a nature similar to that caused by anger or anxiety in the breast milk of nurses, which many a time has killed the child by convulsions or tetanic spasms.

### ART. 37.—*On Epilepsy.*

By Dr. TODD, F.R.S. Phys. to King's Coll. Hospital.

(*Medical Times and Gazette*, Aug. 5 and 12, 1854.)

Dr. Todd states his theory of epilepsy as follows :—

“ Upon this fact of the dependence of attacks of epilepsy upon renal disease, I have been enabled to construct a theory of the cause of epileptic fits generally. I hold that the peculiar features of an epileptic seizure are due to the gradual accumulation of a morbid material in the blood, until it reaches such an amount that it operates upon the brain in, as it were, an explosive manner ; in other words, the influence of this morbid matter, when in sufficient quantity, excites a highly polarised state of the brain, or of certain parts of it, and these discharge their nervous power upon certain other parts of the cerebro-spinal centre in such a way as to give rise to the phenomena of the fit. A very analogous effect is that which results from the administration of strychnine, which is best seen in a cold-blooded animal, like the frog. You may administer this drug in very minute quantities for some time without producing any sensible effect ; but, when the quantity has accumulated in the system up to a certain point, then the smallest increase of dose will immediately give rise to the peculiar convulsive phenomena. The animal is thrown into a series of paroxysms of opisthotonus, which exactly imitate the phenomena, which we often witness in tetanus, as it affects man and some of the higher animals.

“ This, then, is the humoral theory of epilepsy. It assumes that the essential derangement of health consists in the generation of a morbid matter, which infects the blood ; and it supposes that this morbid matter has a special affinity for the brain, or for certain parts of it, as the strychnine, in the case just cited, exercises a special affinity for the spinal cord. The source of this morbid matter is probably in the nervous system, it may be in the brain itself. It may owe its origin to a disturbed nutrition—an imperfect secondary assimilation of that organ—and in its turn it will create additional disturbance in the functions and the nutrition of the brain. Probably, in no instance does an epileptic fit ever occur without leaving a damaged state of brain, which in some cases is permanent, in others remarkably transient.”

Again :

“ According to the humoral theory, the variety in the nature and severity of the fits depends on the quantity of the poisonous or morbid material, and on the part of the brain, which it chiefly or primarily affects. If it affect primarily the hemispheres, and spend itself, as it were, on them alone, you have only the epileptic vertigo. If it affect

primarily the region of the quadrigeminal bodies, or if the affection of the hemispheres extend to that region, then you will have the epileptic fit fully developed.

“ To give a more definite character to the humoral theory, we need to discover a morbid matter in the blood, in variable proportions, in every case of epilepsy. This desideratum has, as yet, been only partially obtained.

“ The clue to a discovery of this kind was first given by the observations of Prevost and Dumas upon the effect of excision of the kidneys. These observers found that the removal of the kidneys always led to an accumulation of a considerable quantity of urea in the blood, and was followed by convulsions and coma, an epileptic state.

“ After this, clinical observations by practical physicians showed that disease of the kidney was apt to be followed by attacks of convulsions and coma, when the excretion of urine fell in quantity to a very low amount ; and it was found that, in such cases, a considerable quantity of urea was present in the blood.

“ A connexion was clearly thus established between the presence of urea in the blood, defective renal action, and the epileptic condition. But whether the active poison is urea, cannot yet be decided. Frerichs, indeed, has lately affirmed, that it is carbonate of ammonia, a product of the decomposition of urea. But even this is still *sub judice*. All that we really know is, that in certain states of diseased kidney, when the excretion falls below a certain point, urea will accumulate in the blood and epileptic seizures will ensue ; and, should the patient die, we find no brain-lesion to explain the phenomena ; but we find unequivocal evidence of diseased kidney.

“ Still, gentlemen, imperfect as is the present state of our knowledge on this point, who is there that does not see, in the facts which I have detailed, a gleam upon the horizon, announcing the approach of some brilliant discovery, which no doubt the advancing state of organic chemistry will yet develope, and which will throw great light on the obscurest disease in the whole range of maladies, which affect the human frame ?

“ You will find it convenient in practice to place the cases of epilepsy in three groups.

“ The first, and largest, is that in which I would place all those cases that are characterised by distinct, well-marked, often very severe symptoms, but in which we are not able to detect any distinct sign of lesion of the brain and spinal cord, either before or after death. Among these you find some which, from the frequency and the violence of the attacks, may be styled acute cases ; but the great majority are chronic, and too many are not amenable to medical treatment ; they afford an extensive field for the empiric to exercise his craft upon. Many of these patients will have fits for years, with variable intervals between them ; in some mild, in others severe ; yet, after death, notwithstanding the formidable character of the symptoms in some, and their long duration in others, we find no important lesion in the brain, which can be regarded in the light of a *cause* of the disease. And whatever change may have taken place in that organ, may be regarded as an effect of the disturbed consciousness and the impaired intellectual

action, which follow each severe paroxysm, or the result of the shock and the injury to its nutrition conveyed by the excited state of the whole or a great part of it.

“The second class of cases are those which may be grouped under the name of *renal* epilepsy. Of these the case now before us, that of Richard P—, forms a good example, in the chronic form. More commonly, this kind of epilepsy exhibits more acute and urgent symptoms, the attacks being more frequent, and at shorter intervals.

“You may place in the same category with the cases of renal epilepsy those in which the disease is associated with gout. I meet with many examples of this form of epilepsy occurring in men between 40 and 55. The patients are persons of decided gouty diathesis, and have gout rather of the asthenic kind, with a tendency to rapid effusions into the joints. In some, the gout may have shown itself but slightly in the extremities, and the patient may have been troubled with head feelings, giddiness, tinnitus, and may have found himself less capable of mental effort than usual. In the same class you may place the cases of convulsions occurring in the puerperal state, whether they take place after or before parturition; these are sometimes referable to defective action of the kidneys.

“And in the same class you may place cases which have connexion with syphilis, although the syphilitic poison may not have produced any organic lesion of a tangible kind.

“Epilepsy arising from exhaustion or perverted nutrition of any kind may be referred to this head; such cases as arise from the abuse of the sexual powers in either sex, from prolonged mental effort and anxiety. In all such cases, a disturbed nutrition of the brain results, which may generate the irritating matter on which the morbid phenomena depend.

“The cases contained in this group are those which are most amenable to treatment, and which may be treated by a rational method.

“To a third class we may refer all those cases in which the epileptic state is associated with organic mischief of some kind, either of recent or of slow formation.”

These remarks are *apropos* in the following case; the case and remarks being part of a clinical lecture delivered at King’s College Hospital, and reported by Dr. Beale.

**CASE.**—Richard P., a policeman. From his profession, he has been often exposed to violence, and has frequently suffered from severe blows on the head. Fifteen months ago, the first fit occurred; he was quite insensible, and bit his tongue during the fit. A fortnight afterwards he was seized with a second fit, and he has since been subject to their occurrence at about the same intervals of time. Occasionally, however, a month would pass over without a fit, while sometimes only thirteen days would intervene between two epileptic seizures. Matters have been going on in this way for a year and a quarter.

The patient is a fine athletic man, and had, previous to these fits, suffered from occasional attacks of giddiness and pains in the head, which seem to have been aggravated by hearty eating and free living, although there was no evidence of his having been a drunkard. The frequent attacks have impaired

his memory very much. Each fit is followed by a prolonged state of stupor, and his speech and manner are very hesitating for some days after it; and sometimes, as his medical attendant in the country informed us, an attack would be followed by a marked state of imbecility.

Upon a careful examination of this patient, no evidence could be obtained of any organic affection of the brain, nor of any of the thoracic or digestive organs. But our attention was arrested by the condition of the urine as indicative of renal disease. And here let me pause to remark to you, how important it is (independently of the duty, for the sake of clinical history, of noting the condition of so important a secretion) always to examine the urine in cases of epilepsy, for this patient showed no signs whatever of diseased kidney, save such as the urine afforded, or as experience might have suggested in the fits. The urine was distinctly albuminous, and the deposit was granular, and contained numerous casts of the tubes. The specific gravity ranged from 1010 to 1025, and its reaction was acid; the quantity generally two pints.

So far, we had strong evidence that this patient's kidneys were probably diseased. I was anxious to ascertain if his blood contained urea; and also wished, if possible, to test the accuracy of the doctrine lately put forward in Germany by Frerichs, namely, that in cases in which comatose and epileptic symptoms ensue upon disease of the kidneys, it is not simply to the accumulation of urea in the blood that these phenomena are due, but to the development in the circulating fluid of carbonate of ammonia, arising from the decomposition of the urea. The carbonate of ammonia is the poisonous matter. Frerichs has ascertained, that if this substance be injected into the veins of animals, an epileptic condition—*i. e.*, coma with convulsions—is induced, which passes off as soon as the carbonate of ammonia has been eliminated from the system. He has found, also, that when the kidneys have been extirpated from dogs, and urea has been injected into the blood, carbonate of ammonia may be detected in the breath of the animals by holding a rod dipped in hydrochloric acid under the nose, when the characteristic white fumes evince the presence of alkali, and the blood is likewise found to contain it in notable quantity.

On the 7th of July, our patient had had no fit since his admission; but he had been complaining of giddiness and pain in the head, and his mind was much confused. It seemed to me likely that a fit was not far off, and that this was a fair time for the experiment, because the morbid matter, whatever it might be, was no doubt being accumulated.

First, the expired air was tried; but neither by the restoration of reddened litmus held in the current of air as it came from the nostrils, nor by the formation of white fumes when a glass rod dipped in hydrochloric acid was held beneath them, could we obtain indication of the presence of carbonate of ammonia.

Next, a small quantity of blood was taken from the arm, and subjected to careful analysis; and, although it certainly effervesced upon the addition of strong hydrochloric acid, there was no evidence of the presence of carbonate of ammonia by the formation of dense white fumes, and it is quite possible that the effervescence might have been due to carbonate of soda,\* but decided traces of urea were obtained.

Leaving, then, the question as to the precise nature of the poison undecided, I have been content to accept the evidence of uræmic poisoning, in this case, from diseased kidneys, as the origin of the epileptic state; and, in the absence

\* The composition of the serum of the blood on July 7, is represented in the follow-

of further chemical evidence, I am disposed, for the present, to regard the poison as urea.

Regarding the case in this light, it seemed to me very desirable to subject the patient to a treatment founded upon this view; and the case seemed well suited for that purpose. The symptoms were not of an acute kind, nor did they immediately threaten his life. There was, therefore, sufficient time to carry out a plan for the elimination of the morbid material and the relief of the irritated kidneys.

In practice, you will meet with, for the most part, two classes of cases of this uræmic poisoning, as it is called; the one acute, the other chronic. In the acute cases, the urine is suppressed, or greatly diminished; and the nervous symptoms come on quickly, consisting of rapid coma, with more or less frequent attacks of convulsions at brief intervals. In these cases, very active purging with a powerful drastic, such as elaterium, is often attended with remarkable success; and it is also a good plan to blister the occiput and nucha freely, so as to obtain an abundant serous discharge from the vesicated surface. The chronic cases are well illustrated by that of our patient P—. In them we need not have recourse to such active and violent remedies; there is sufficient time to act on the skin, as well as upon other emunctories.

Now, the plan which I proposed to adopt with this patient was the following. To act freely upon his skin by the hot-air bath, with the two-fold object of relieving his blood of any morbid material, and also of helping the kidney, which experience tells is greatly relieved by the free action of the skin. We know how much good is done by this mode of treatment in the acute inflammatory states of kidney when dropsy is present, as after exposure to cold and after scarlet fever. But as the sweating process by the hot-air bath is a very debilitating process, I proposed to diminish this weakening effect by having the patient splashed with cold water after each sweating bath. In this way he was able to take a hot-air bath every alternate evening.

He has also had scrupulous doses of the bitartrate of potass three times a day, with a view to promote the excretion of water by the kidneys; and, from time to time, we have given him a brisk saline aperient. He has been kept on a moderate allowance of animal food, without beer or stimulants of any kind.

Our patient began this treatment on the 1st of July; he is now, therefore, nearly a fortnight under it, and, so far, with promising results. There has been no fit since his admission, although he has had sensations of giddiness and of noise in his head, such as he has been long subject to, and such as have usually preceded a fit.

ing analysis, made by Dr. Beale. The reaction was alkaline and the specific gravity 1023.

Water . . . .	893.43						
Solid matter . .	106.57						
		Extractive matter, soluble in water and alcohol					1.32
		Extractive matter, soluble in water only					.58
		Fixed alkaline salts					8.81
		Albumen and earthy salts					95.86

Traces of urea were detected in the alcoholic extract.

The urine was examined on the same day. The re-action acid, and the specific gravity 1020. It contained albumen; and, upon standing, a deposit subsided, which was found to consist chiefly of very transparent and slightly granular casts.

Water . . . .	945.80						
Solid matter . .	53.20						

Organic matter							37.81
Fixed salts							15.39

His general appearance and condition are improved. The quantity of urine varies from two to three pints; occasionally, only a pint and a half; and the albumen is notably diminished, and the specific gravity on the average 1015.

[This patient remained under treatment until the beginning of September, upwards of two months. The hot-air bath was continued till the 26th of August, when, as he seemed weakened by it, and as there was but a very small quantity of albumen in his urine, it was given up. The bitartrate of potass was changed for small doses of quinine, and he improved so much that he was allowed to go to the country. He came twice to the hospital, at intervals of a month each time, to report his condition; and it was found that his fits had disappeared since the treatment began while in the hospital, and that they had not returned after he had left it; the albumen had likewise ceased from his urine; so that for the months of July, August, September, and October, he was free from epilepsy. How long this favorable state continued, I have no means of knowing, for he went at the end of October to his native county, Cornwall, and we have not heard of him since.]

As to the future of this case, all will depend upon the state of the kidney. If the man be placed under favorable circumstances, such as will help the action of his skin, and promote a healthy general nutrition, and will observe a rigid diet, and abstain from stimulants, these promise best for the restoration of the normal condition of that organ, and for averting the attacks of epilepsy.

#### ART. 38.—*On Epilepsy.* By Dr. CAMPS.

(*Lancet*, May 27, 1854.)

In a paper recently read before the Medical Society of London, Dr. Camps maintained: 1st. That epilepsy has its origin, anatomical seat, not so much in the brain and in the spinal cord, as in the organic system of nerves, although many of its symptoms, or the morbid phenomena which characterise it, are those which belong to the cerebro-spinal organs, these being the expressions of parts or organs not primarily but secondarily affected. 2d. That epilepsy in many cases may be regarded as little more than an irregular form of intensified hysteria. 3d. That epilepsy is to be regarded more as a disease of debility than as a disease of irritation or excitement, although these may be present at times as the consequences of debility; and 4thly, (which follows from the last proposition,) that epilepsy is to be most successfully treated by tonics and by sedatives.

#### ART. 39.—*Gymnastics in Chorea.*

By M. BLACHE, Physician to the Hôpital des Enfants at Paris.

(*Comptes rendus*, July 19, 1854.)

In a paper recently read before the 'Académie de Médecine,' M. Blache speaks very highly of gymnastic exercises as a means of treatment in chorea. M. Blache directed attention to this subject in 1834, in the article on chorea in the 'Dictionnaire de Médecine'; it was first

carried into effect in 1847; and since this time it has been repeatedly tried and approved. In the paper 108 cases are cited in illustration. Of this number 34 cases were of moderate severity, and 73 were as bad as possible. The 34 cases of moderate severity were cured, without exception, in a mean period of 26 days, and of 18 lessons of an hour's duration. Of the 14 severer cases, 68 were cured in a mean period of 45 days and 31 lessons; and the remaining 6 in 122 days and 63 lessons. Not one resisted the treatment.

In the more severe cases the first thing was to use friction, and passive movements of the limbs and body, the patient lying upon his back in bed; then the patient was taught to go through certain regular and rhythmical movements, the time being indicated by music or in some other way; and last of all he was sent into the gymnasium and put through the usual exercises. Under this treatment the aching pains, which are so constantly complained of by choreic patients, speedily disappeared, and the mind and body rapidly acquired tone.

M. Blache considers that the benefits resulting from this treatment might be greatly enhanced by combining it with the treatment by sulphureous baths—a treatment which, in his opinion, has been proved to be more effectual than any other, and which is nearly as effectual as the one under consideration.

#### ART. 40—*Chloroform in Tetanus.* By —

(*Medical Times and Gazette*, June 17, 1854.)

In a series of 43 cases of tetanus occurring in various British hospitals, and recently reported in several numbers of the 'Medical Times and Gazette,' chloroform was tried in twelve instances, of which eight died, and four recovered. Of these four recoveries, in the reporter's opinion, "there was not one in which it seemed to be reasonable to refer the event exclusively, or even principally, to the influence of the anæsthetic, and more than one had got into the list of protracted, and therefore hopeful cases, before it was resorted to." His conclusions are :

"1. That, in the majority of cases, inhalation of chloroform, may be practised with safety as regards immediate consequences.

"2. That it is always effectual in allaying spasm for the time.

"3. That it exerts, however, no preventive influence whatever, the spasms usually returning, with even increase of severity, very shortly after its suspension.

"4. That its continuous administration over long periods of time is not to be recommended, since the patients sink at least as fast, if not faster, than when the disease is allowed to display itself.

"5. That it is of great benefit in certain protracted cases simply as an alleviant of the pain. In some of these it will procure rest for periods often of an hour or more after the suspension of the inhalation, and acts altogether much more favorably than in the earlier stages.

"6. That, in certain protracted cases, it is of the greatest use in

enabling a patient, while in a state of half-insensibility, to take food, who would otherwise be unable to swallow.

"7. That, excepting for the two last-named purposes, its use does not seem to be attended by any commensurate benefit, while it may much interfere with the action of other remedies, and, very possibly, be actively injurious itself.

"These conclusions must be understood to apply only to chloroform inhalation, since, from the cases published, there appears reason to believe that the results of ether inhalation have been more favorable. As, however, the latter agent has not been, of late years, used in London, we have no means of judging as to the proportion of cases in which it did not relieve, or whether in any it appeared injurious."

#### (C) CONCERNING THE RESPIRATORY SYSTEM.

ART. 41.—*On Pulmonary Congestion, considered as a constant element in acute maladies.* By Dr. WOILLER.

(*Archiv Gén. de Méd.*, April and May, 1854.)

In these papers, Dr. Woiller wishes to show that a state of pulmonary hyperæmia or congestion is always set up concurrently with the development of acute febrile maladies, a state which he calls *the pulmonary congestion of acute maladies*. This congestion has three periods—of progress, of height, and of decline, in keeping with the periods of the accompanying maladies, except in the febrile exanthemata, where it diminishes when the eruption makes its appearance. It is indicated by expansion and diminished elasticity of the chest, by puerile respiration, by feebleness of the respiratory sound, with or without sonorous râles, and sometimes by crepitation, and, last of all, by dulness in the posterior parts of the chest. As a rule, there is neither cough, nor dyspnœa. As the fever subsides, this congestion subsides, and the pulmonary symptom does not claim any remedial interference except it passes beyond due bounds.

ART. 42.—*Case of fatal Asphyxia caused by the detachment of a diseased bronchial gland, and its impaction in the larynx.* By Mr. EDWARDES, of Wolverhampton.

(*Medico-Chir. Trans.*, vol. xxxvii, 1854.)

This very curious case appears to be unique. It occurred in a child, eight years of age, who was suddenly seized with symptoms of a fit whilst at play. He was quickly carried home, became violently convulsed, although retaining consciousness and the power of utterance; the countenance became extremely anxious, and he uttered the expression that he should die. In the hurry of the moment there was no opportunity of getting any distinct knowledge of the previous history, beyond the surmise that the boy had swallowed something. The

trachea was immediately opened ; a little air issued from the opening ; artificial respiration was attempted, but without effect, as the child gave but two gasps after the operation, and died. The *post-mortem* examination revealed the presence of a foreign body touching the under surface of the epiglottis, and extending through the *rima glottidis* into the larynx ; the substance was whitish, and covered with mucus. On a very slight examination, it was evident that the body was a bronchial gland. Upon slitting open the trachea, the spot from whence the gland had issued was soon observed ; it was on the posterior part of the right side, just above the bronchial bifurcation. The opening was ragged and irregular, and communicated with a cavity behind, sufficiently large to contain a nutmeg. No other evidence of disease was observed. It was an interesting point to consider whether the suppuration commenced with the gland, or had ulceration taken place around it ? Again, did the gland at once pass into the trachea, or was it a gradual process ? The author offered some observations on the relation the case bore to certain medico-legal points. The detached mass had been examined by Mr. Quekett. It was of irregular shape, contracted in the centre, and of a light bluish colour, streaked with black and white. Its outer surface presented traces of epithelium and mucus ; one part was coated with what appeared to be inspissated mucus. These sections were found to be made up of rounded cells, connected together by fibrous tissue. Two sections of bronchial glands were examined for the sake of comparison. A similar structure in all respects was observed, and Mr. Quekett was of opinion that the impacted substance was a portion of an enlarged bronchial gland.

ART. 43.—*Oils as prophylactic of Phthisis.*  
By DR. THEOPHILUS THOMPSON.

(*Lancet*, Aug. 5, 1854.)

In his Lettsomian lecture on the treatment of pulmonary phthisis, Dr. Thompson says :

“ If hereditary tendency to phthisis exists in any family, it is surely of great importance to anticipate the pulmonary era, and introduce oleaginous medicines at an early period. The practice of daily induction with preparations of neat’s-foot, or cocoa oleine, might, I conceive, prove of peculiar efficacy.”

ART. 44.—*The treatment of Phthisis by Iodine Inhalations.*  
By M. PIORRY.

(*Comptes rendus*, Jan. 24, 1854.)

We take the following extracts from a paper read before the Académie de Médecine. M. Piorry writes :

I was induced to employ iodine and the vapours of iodine in the curative treatment of pulmonary phthisis by the following circumstances. It was known that iodide of potassium possessed a real and even prompt efficacy in chronic ostitis and periostitis, in scrofulous

glandular enlargements, and in many other affections more or less allied with tuberculosis ; M. Deyne, an interne of my service, and I, concluded that this remedy would be useful in phthisis (pneumophymie.) The results of our experiments were very satisfactory. A striking amelioration took place in many of our patients, and this amelioration was real, for of the patients mentioned in my work on Practical Medicine, three or four are still living, and in the enjoyment of good health.

After the successful treatment of hydrocele and tuberculous disease of the testicle by iodine injections, it was natural to attempt to obtain similar results in pulmonary excavations. It would have been difficult, if not impossible, at all events it would have been extremely rash to have injected tincture of iodine into the air-passages. We therefore bethought ourselves of the vapour of iodine.

In hospital practice it was necessary to select the simplest methods of inhaling iodine. One or two scruples of iodine were accordingly placed in a wide-mouthed jar of the capacity of a quart ; the vapour of it was disengaged spontaneously with more or less rapidity according to the degree of heat and moisture of the atmosphere.

When we used the tincture of iodine, we poured from one to three ounces in the jar, and heated it until the vapours of alcohol and iodine were liberated.

The patients breathed the air contained in these recipients, and charged with alcoholic and iodine vapour. One inspiration at a time is sufficient, but it should be deep, as when a sigh is heaved. Such an inspiration produces little irritation of the air-passages ; it should be repeated one or two hundred times every day, at intervals, for several successive inspirations produce pain in the larynx and bronchi, and cough.

Even during sleep the patient should inhale iodine. For this purpose several saucers, each containing one scruple of iodine, should be placed about the pillow. At the hospital, we attach numerous phials of iodine to the iron frame which supports the bed-curtains. The air thus becomes saturated with iodine ; the starched curtains are coloured blue, and the iron of the bedsteads assumes different tints under the action of the iodine.

If a moist starched paper is interposed between the jar containing iodine and the patient's mouth as he takes an inspiration, it turns blue ; if the same air, after traversing the lungs is breathed upon the paper, it causes no change. The inference from this fact which I have observed very frequently, is that the iodine which entered the lungs is absorbed there, during the brief sojourn of the air in the air vesicles.

The majority of the patients subjected to this treatment at *La Pitié*, *La Charité*, and in my private practice, took also from twenty to sixty grains of iodide of potassium daily. In all those cases in which the extent of the lesions rendered it probable that adhesions, or that remarkable supplementary circulation so well described by Natalis Guillot, existed between the pulmonary and costal surfaces, we had recourse to frictions with tincture of iodine diluted with 19 parts of water. The patients were placed, in some cases, under other modes of treatment : 1. Under the use of tartar emetic in small doses, the fifth of a grain, for example. This heroic remedy was employed chiefly in those cases in

which mucous, puriform, or purulent liquids accumulated in the bronchi, and produced a tendency to asphyxia or hypoxæmia. 2. Under the use of astringents, when the state of the intestinal canal required it ; alum, opiates, phosphate of lime, subnitrate of bismuth, &c., were employed with this object, but their use was discontinued as soon as the diarrhoea was suppressed. 3. Under the use of quinine ; in large doses when the spleen was congested ; in small doses when there was simply a nightly exacerbation of fever depending upon the entrance of pus or softened tuberculous matter into the circulation. 4. Upon a nutritious and reparative diet ; a very important point, for surely, if I was called upon to choose between hygienic precautions and the whole category of remedies besides iodine, I should give the preference to a good regimen. 5. Belladonna, opium, and other narcotics were employed, though rarely, to moderate the cough.

The cases which I have treated have not required the use of setons, issues, permanent blisters, or moxas, and I have not been able to comprehend the utility of these artificial pyogenic lesions in a disease in which the formation of pus is a disastrous accident.

Almost all of the patients remained in Paris. They were not sent to Nice or Pisa or other parts of Italy, a country where phthisical patients, coming from the north, in spite of all that has been said, recover no faster and no better than elsewhere.

Thirty-one patients have been subjected to the treatment thus described during the past two years. They all presented, in different degrees, the symptoms commonly attributed to pulmonary phthisis ; this is, cough with puriform expectoration, hectic fever, emaciation ; the majority of them suffered from diarrhoea, connected probably with tuberculous ulcerations ; in many the larynx appeared to be involved in tuberculous disease ; the majority had spit blood.

All of these subjects presented marked dullness at the summit of the lungs, either under the clavicle or at the superior scapular region. In most cases there was a hardness at these points, perceptible to the finger. Ordinarily it was possible to define the diseased structure accurately, and to distinguish the parts in which there was great condensation from those which had undergone less alterations of structure. In some cases a *bruit hydraerique* could be heard.\*

In every case the stethoscopic signs were as positive as those revealed by plessimetry. At the points at which dullness and resistance had been noted, the ear recognised rude or tubal respiration, and more or less resonance of voice. In many cases large cavities were indicated by loud gurgling, cavernous respiration, and pectoriloquy. Each patient expectorated round, opaque, numular sputa, the amount of which corresponded with the extent of the disease as determined by other methods of exploration.

I desired to appreciate the effects of iodine with precision, and therefore I did not trust to the indications of plessimetry. I ordered charts, on which were described exact delineations of the diseased

\* The sound obtained by percussing over a cavity containing air and liquid. Percussion over the cæcum during typhoid fever often gives excellent examples of it.—TRANS.

parts, and representations of the variations in sound upon percussion which occurred from day to day. In casting the eye over these figures, it will be seen that after four, six, or twenty days, six weeks, or three or four months of the iodine treatment, there was in almost every case a diminution in the extent of the surface over which there was at first feebleness of respiration, dulness, resistance, &c.; that, at the same time, the stethoscopic signs indicated an amelioration in the condition of the condensed portions of lung. This result did not occur only in those patients who were slightly diseased, but in almost every case. Numerous patients with cavities in the lungs were apparently cured. The ultimate results were as follows: Decided amelioration in the symptoms and anatomical characters in 20 patients. Disappearance of the anatomical characters and of most of the symptoms in 7 cases. Death, with or without amelioration, in 4 cases.

After some reflections upon the possible manner by which iodine operated in the cure of phthisis, M. Piorry concludes with the following propositions:

“1. The inhalation of the vapour and tincture of iodine are useful in the cure of phthisis;

“2. In many cases such inhalation is followed by a diminution in the extent of the indurated parts surrounding tuberculous deposits, and an amelioration in the general symptoms;

“3. It is probable that tubercle itself disappears under the influence of iodine inhalations;

“4. That inhalations of the tincture of iodine may promote the cure of tuberculous cavities;

“5. That after the softening of tubercles, the resulting cavities may cicatrize spontaneously;

“6. That compression of the thorax over the points of disease indicated by percussion and auscultation, may contribute to the cure of the local lesion, and to the prevention of pyæmia;

“7. That iodide of potassium administered internally, and frictions with diluted tincture of iodine over adherent portions of the lung, are also of great utility.

“If,” adds M. Piorry, “any useful therapeutical facts have been brought out in the preceding essay, I would observe that science and humanity are indebted for them to the progress of accurate diagnosis.”

#### ART. 45.—*On Paracentesis Thoracis.* By Dr. J. RISDON BENNETT.

(*Lancet*, June 10, 1854.)

In this paper, Dr. Bennett's chief object is to inculcate the importance of not hastily resorting to this operation in cases of inflammatory hydro-thorax. He finds his objection to this proceeding in the early stage of the disease, on the non-necessity of the measure, on the amenability of the disease to general treatment, and on the mischief likely to arise from puncturing the cavity of the chest. In order to show the non-necessity of the operation, he relates a number of cases, in which there had been a large collection of serum in the chest,

but which had been absorbed under general treatment, and the use of counter-irritants, consisting either of blisters, or of the application of a strong solution of iodine. The general treatment consisted of very small doses of blue pill, with squill and Dover's powders, and infusion of cascara, with iodide of potassium, and sweet spirits of nitre. The patients were placed under non-stimulant but nutritious diet. Dr. Bennett objects to the use of mercury—to the production of the specific effect of that medicine, which he regards as injurious. He relates a case, to which he had been called into in the country, of hydrothorax in a young gentleman, in whom the symptoms were not of such an urgent character as to require operation. He recommended the employment of remedies similar to those which have been mentioned, and with every prospect of their being useful. Another physician was called in, however, before a fair trial was given to the measures proposed, and paracentesis was performed. The fluid was serum; but on a second operation being required, about three weeks afterwards, the matter evacuated was purulent. This illustrated one of the dangers to which tapping exposed a patient suffering from hydro-thorax. With respect to the diagnosis of the nature of the fluid in the chest, this could be determined without danger by the passage of an exploratory needle. If the fluid were found to be purulent or to contain albuminous flakes, Dr. Bennett recommends a gradual and continued drain of the fluid rather than its sudden removal.

ART. 46.—*Lumbrici in the Pleural Cavity.*  
By Professor LUSCHKA.

(*Archiv für Pathol. Anat.*, Bd. vi; and *Medico-Chir. Rev.*, Oct., 1854.)

Lumbric have been found in many parts of the abdomen, and even free in the peritoneal sac; but Professor Luschka communicates an extraordinary case, in which, through the intermediate process of a retro-peritoneal abscess, four lumbrici were found encysted in the left pleura.

A man, æt. 23, who two years before had had slight peritonitis, suffered, in 1852, from return of this complaint, with pain in the left lumbar region; death ensued, with typhoid symptoms. In the left pleura, between the lower lobe of the lung, the thoracic wall, and the diaphragm, there was a sac formed of pseudo membrane, in which six lumbrici and a large quantity of brown fluid were contained. An opening in the diaphragm led into a cavity formed by adhesions between the upper end of the descending colon, the left kidney, and the diaphragm, and in which some lumbrici were also contained; this cavity, or abscess, communicated with the descending colon by three contiguous openings, situated on a level with the under part of the spleen. In the colon there were also lumbrici.

## (c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 47.—*Cases of "Pneumathæmia."* By Dr. CLESS.

(*Ueber Luftim Blute, in Pathologischen Beziehung*, Stuttgart, 1854; and *Medico-Chir. Rev.*, Oct., 1854.)

From the review of Dr. Cless's book in our contemporary, it does not appear that much new light is thrown upon the pathology of this obscure disorder. There is no analysis of the air, and there is no definite information as to the source of the air. Dr. Cless considers that the absence of all signs of decomposition in the great majority of cases, and the suddenness of death—which is often like that caused by the accidental admission of air into the veins,—together with the fact that air can be secreted from certain organic membranes, and that it has been found in the vessels in a few instances, as after death from hydrophobia, tetanus, and chloroform—is an argument that the air has been produced during life, and that “pneumathæmia,” as he calls it, is a true disease; but he has no more precise information to convey.

Dr. Cless gives a table of eleven cases of the same kind, and refers to five others, which lead to the supposition that this disease is not so uncommon as is supposed.

His cases are as follows :

“CASE 1.—A woman, æt. 21, was admitted into the Katherine Hospital, at Stuttgart, on the 29th of July, 1851, with symptoms of a “gastric fever,” of medium intensity, and with some catarrhal affection. At the commencement of the second week the cough was well, the fever trifling, and with a tendency to an intermittent type. Sulphate of quinine was ordered. Three days later, on the 10th of August, the patient was suddenly seized with a convulsive affection, without perfect loss of consciousness; the convulsion lasted about fifteen minutes, and was followed by shivering, heat, and sweating. About an hour afterwards there was bilious vomiting, and a lumbricus was thrown up. The next three days and nights she was tranquil. On the morning of the 12th of August, when visited by the physician, she expressed herself as feeling comfortable; she had eaten her breakfast with some appetite; she was rather giddy when she went to stool, but otherwise had no head-symptoms; the tongue was cleaner than the day before; the respiration was perfectly easy; the face was a little flushed; the pulse quick (100), full, and weak. A quarter of an hour later the physician was sent for by the nurse: on his arrival the patient was dead. It appears that the adjoining patients saw her suddenly move in the bed, then become convulsed (apparently like opisthotonus), gasp for breath, sigh, and sink down in bed: all this occurred in about two minutes; she was seen the moment after, but was without sign of life.

“The body was opened thirty hours after death, in very hot weather. There was no sign of commencing putrefaction. The brain was quite normal; there was no air in the vessels of the pia mater; there was no fluid in the pleuræ; the lungs were emphysematous, with some lobular collapse; there was no trace of decomposition. In the pericardium there was a little serum. When the heart was laid bare, a remarkable globular distension and bulging of the right auricle and ventricle was observed; when the operator rather

hastily cut into the ventricle, to all appearance a gas issued out, with a hissing noise, as in pneumothorax, and the ventricle collapsed. The ventricle and auricle being fully opened, was found to contain a moderate quantity of coagulated blood in which were no air-bubbles; the endocardium was stained deeply red. The left ventricle showed no distension with gas like the right side, but there were some little bubbles of gas in the partly coagulated blood. The heart was healthy; in none of the vessels was there any appearance of air. A little frothy blood exuded from the liver on section, but the blood from the other organs was not frothy. The spleen was enlarged and soft. In the ilium there were numerous nodules from infiltration of the solitary glands; Peyer's patches were not much infiltrated, but were rather swollen, and had many dark points. There were many lumbrici in the intestines; the mesenteric glands were generally normal; three or four, corresponding to the lower part of the ilium, were swollen, and had a dark colour. Kidneys, uterus, and ovaries, were normal.

"Dr. Cless believes the case to have been one of mild typhus abdominalis (typhoid fever). He remarks that sudden death, with apparently slight symptoms, is not excessively uncommon in this disease, and after death nothing may be found except the usual indications of typhus abdominalis. But in more than 1200 examinations of bodies, in various diseases, he never saw such a collection of air in the heart. This air could scarcely be a product of decomposition, as there was no evidence of such taking place in any other part of the body, and as local decomposition in the heart alone is a thing unknown in the records of post-mortem examinations.

"CASE 2.—A girl, æt. 14, was admitted on the 16th July, with typhus abdominalis (typhoid fever); the bronchitic complication was severe. Seventeen days after her admission she appeared extremely well; when visited on the morning of the 2d of August, she was found to have slept well, and to have no trace of breathlessness or other noticeable symptom. At 7 a.m. she coughed a little, as usual, and put out her hand to take the spitting cup; suddenly, she breathed with great difficulty, became livid in the face, stretched out her arms and fingers spasmodically, and fell back dead. All this did not occupy more than from one to two minutes. On section, twenty-six hours after death, in moderately warm weather, there was no trace of decomposition. Besides the customary appearances of typhoid fever (infiltration of Peyer's patches, enlargement of the spleen), there was air in the large veins of the neck, in the right auricle and ventricle, and in the blood exuding from the liver; and the blood on the right side of the heart also contained air. In the veins of the pia mater there was also air, but Dr. Cless attaches no importance to this common phenomenon. The blood throughout the whole body was fluid."

#### ART. 48.—*Case of Arterial Plugging.*

By Dr. GIBBON, Assistant-Physician to the London Hospital.

(*Pathological Transactions*, vol. v, 1854.)

The patient in this case was suffering under puerperal phlebitis, with abscess in the spleen. The artery obstructed was the left middle cerebral.

CASE.—The patient, an apparently robust woman, æt. 20, was admitted into the London Hospital, on the 7th of March, 1854. At that time she was weak, pale, and anxious. Her left lower extremity was enormously swollen.

painful, and pitted on pressure. But no indication could be felt in the course of the superficial veins and lymphatics. Her pulse was 120, small and feeble. Her sleep was stated to be disturbed and unrefreshing.

She stated that she had always enjoyed remarkably good health, and had given birth to her first child by an easy labour. Ten days before, she had caught cold by imprudently getting up on the third day after delivery; then the swelling of the left leg commenced with rigors. It had been treated by leeching and low diet.

Under the use of a liberal diet and stimulants, together with quinine and morphia, she improved up to the 13th; then severe rigors and great febrile disturbance, with relaxed bowels, set in and continued, with occasional vomiting, up to the time of her death, which took place on the 13th of April.

The rigors, which lasted about half an hour, recurred twice in the twenty-four hours, at noon and midnight, with singular regularity.

On March the 25th, about noontime, she became suddenly hemiplegic of the right side, her mouth was drawn to the left side, she was unable to speak, but retained her consciousness. In this state she continued, without any contraction of the muscles, or dilatation of the pupils.

*Post-mortem.*—The vessels of pia mater were remarkably deficient in blood. Those over the convexity of the left hemisphere so empty and colourless that they could not be readily traced. The vessels on the base of the brain were free from disease, but the left middle cerebral artery was obstructed at the junction of its first branch by a firm yellowish clot, and for about the space of half an inch on either side of this clot, the vessel was filled with coagulated blood. The subarachnoid spaces and cerebral ventricles contained an amount of serous fluid which is seldom seen in subjects dying at this age.

On laying open the middle cerebral artery, its lining membrane was found to be perfectly smooth and polished, and unattached to the clot. Under the microscope, the clot presented all the appearances of semi-organized fibrin, its section showing fibrillated striæ.

The substance of the brain was generally anaemic, especially in the left hemisphere, where no red points were visible on section. The consistence of the organ was diminished, but not more in one half than the other. The nervous pulp was not diffluent nor in the least disintegrated, but moist, and not so coherent as natural. There was no perceptible difference in the relative firmness of the corresponding corpora striata and thalami optici. The specific gravity of the left seemed to be less than that of corresponding parts of the right hemisphere; as was tested by noting the different rapidity with which equal and corresponding portions of the brain sank in water. By this test the specific gravity of the left optic thalamus seemed to be most diminished. There were evidences of recent circumscribed pleurisy, and the subjacent portions of the lungs were of a darker colour than natural, with here and there yellow spots and patches; they were moreover non-crepitant, resilient, and sank in water. Section of those portions showed the ordinary appearance of purulent infiltration, with here and there larger circumscribed collections of pus. The bronchial tubes were filled with puriform mucus. The pulmonary veins contained recent vermiciform clots, but were free from old and firm clots of fibrin, as were also the pulmonary arteries. The heart was uncontracted, the right auricle contained a loose dark clot; the right ventricle about three ounces of fluid blood. No deposits on any of its valves, which were perfectly healthy. The blood was fluid, except in the inferior cava, common iliacs, and both femoral veins, which were filled with firm buff.

coloured fibrin adherent to their walls. No appearance of suppuration having commenced in any of these veins. The left femoral was much diminished in calibre, and felt hard (cord-like).

Spleen, about twice its ordinary size, having in its lower half a large abscess containing half a pint of well-formed pus. Into this abscess a triangular piece of buff-coloured spleen hung, being almost detached from the healthy tissue of the organ above it. On section this portion was unusually firm and dense, and of a dark lilac tint. It had the appearance of a patch of "capillary phlebitis," and doubtless having lost its vitality had excited suppuration. I laid open some of the larger arteries and veins extending into this portion, and found only the arteries filled with fibrin. There were no similar infiltrations into any other organs.

The uterus was healthy, except that its lining membrane, near the fundus, was roughened, but nothing could be scraped from the surface. The vagina was of a livid colour, but there was no suppuration around it.

In the course of the sheath of the left iliac and femoral vessels, was a large abscess, extending from Hunter's canal upwards, through the pelvis, to the origin of the common iliac artery. It was external to the sheath, and contained, perhaps, two pints of well-formed pus.

#### ART. 49.—*Venous Murmur a natural sound.*

By Dr. HERBERT DAVIES, Physician to the London Hospital.

(*Lectures on the Physical Diagnosis of the Diseases of the Lungs and Heart*, 2d Ed., 12mo, Churchill, pp. 364, 1854.)

The second edition of the work from which we take the material for this article fully sustains the favorable opinion we expressed upon the first edition (*vide 'Abstract,' vol. XV, p. 279*). It shows that the author has not allowed himself to be left behindhand in the present race after medical excellence.

In addition to the alterations due to the progress of physical diagnosis, during the last three years, this edition contains a *résumé* of the morbid anatomy and the corresponding signs of diseases of the lungs, and a description of the minute anatomy of the pulmonary organs by Dr. Andrew Clarke. It also contains some additional evidence, obtained from an examination of picked men in the Cold-stream Guards, in proof of the subject of this article—that venous murmur is a natural sound; and it is to this, and the accompanying evidence, that we now wish to direct attention.

The venous murmur is usually supposed to depend upon a peculiar watery and pale condition of the blood. It is supposed to be a sign indicating anaemia and chlorosis, and requiring iron for its removal. But Dr. Davies disproves this opinion. He writes :

"The observations which I have made upon more than 1000 persons of all ages, *entirely negative* this exclusive view of the cause of the murmur, inasmuch as they prove that the sound is not only present in the pale, anaemic, and chlorotic girl, but also in individuals of both sexes (particularly the young), who exhibit every appearance of strong and ruddy health.

"Having seen a statement made by Dr. Liman, of Berlin, of the remarkable frequency of the venous murmur in children, I deter-

mined to examine a large number of young persons; and, by the courtesy of the medical and official authorities, I was enabled to pursue my inquiries at the Infant Orphan Asylum, Wanstead; the Merchant Seamen's Orphan Asylum, Mile-end Road; the Union and Park House, Clapton; and the London Orphan Asylum; and, to test still further the correctness of my conclusions, I selected for examination a number of fine, rosy children at Limpsfield and Farnham, in Surrey. My observations were particularly directed to the absolute and relative frequency of the right and left jugular murmurs, and to the number of instances in which the sternal venous sound could be detected; and I did not forget to examine the praecordial region for the appearance of valvular functional murmurs.

"The table on the following page gives the analysis of the examination of 802 healthy children, from 14 months to 15 years old.\*

"Having proved the extreme frequency of venous murmur in children, I determined to pursue the subject still further. For this purpose 100 healthy young men, varying between 17 and 23 years of age, belonging to the Provisional Battalion, were kindly placed at my disposal by the Commandant at Chatham (April, 1851). Although the majority of these soldiers presented a ruddy complexion, the following were the results at which I arrived :

Venous murmur loud on both sides							44
Right venous murmur	loud	left venous murmur		weak			16
" "	weak	" "		loud			11
" "	distinct	" "		absent			3
" "	absent	" "		distinct			1
Traces on both sides							10
Absent on both sides							15
							—
							100
Sternal venous murmur present in							11

"An examination of 50 picked men of the Coldstream Guards whose ages ranged from 21 to 27 years gave the following result. The observations were made (Feb., 1854) in the presence of Surgeon-Major Dr. Munro, and the men were the *finest, healthiest, and ruddiest* men in the corps.

Venous murmur very loud on both sides							22
Right venous murmur	loud	left venous murmur		weak			12
" "	weak	" "		loud			6
" "	distinct	" "		absent			2
" "	absent	" "		distinct			2
Absent on both sides							6
							—
							50
Sternal venous murmur present in							6

\* For the examination of children, a stethoscope must be employed which has a small end, not exceeding the size of a sixpence. The want of this precaution has probably caused the frequency of the venous murmur in children to have been overlooked by former observers. The investigation of the murmur in adults must be also conducted with some address, as the sound will be observed only in certain positions of the neck, and with certain degrees of pressure, to be found by repeated trials.

	Wansted Orphan Asylum.	London Orphan Asylum.	Merchant S. Orphan Asylum.	Hackney Union.	Park House, Clapton.	Limpisfield Surrey.	Farnham, Surrey.	Total.
Venous Murmur loud on both sides	Male 77 Female 84	68 52	40 27	25 38	31 28	21 20	14 0	276 249
Right loud; left weak	Male 31 Female 33	15 18	6 8	2 3	7 3	3 6	4 0	68 71
Right weak; left loud	Male 14 Female 9	10 2	2 3	3 3	3 1	3 1	1 0	36 19
Right distinct; left absent	Male 2 Female 4	0 5	1 3	1 0	1 0	1 0	0 2	6 14
Right absent; left distinct	Male 0 Female 1	0 0	0 0	0 0	0 0	0 0	0 0	0 1
Traces on both sides	Male 6 Female 0	4 6	0 0	0 3	1 4	0 1	0 1	11 14
Absent on both sides	Male 13 Female 8	5 7	0 1	0 0	1 0	0 1	1 0	20 17
Total	Male 143 Female 139	102 90 — 282	49 42 — 192	31 47 — 91	44 36 — 80	28 31 — 59	20 0 — 20	417 385 — 802

## STERNAL VENOUS MURMUR.

Male	29	18	5	6	10	7	3	78
Female	36	10	6	10	7	5	0	74
Total	• • • , ,	— 65	— 28	— 11	— 16	— 17	— 12	— 3

"An examination of 53 healthy females, at the Female Asylum, Dalston, and at St. Luke's Union, gave the following result. These persons varied from 16 to 28 years of age.

Venous murmur loud on both sides	.	.	.	.	.	.	.	17
Right venous murmur	loud	left venous murmur	weak	.	13			
"	weak	"	"	loud	.	3		
"	distinct	"	"	absent	.	3		
"	absent	"	"	distinct	.	1		
Traces on both sides	.	.	.	.	.	.	.	9
Absent on both sides	.	.	.	.	.	.	.	7
								53
Sternal venous murmur present in	.	.	.	.	.	.	.	8

"Subsequent inquiries showed that the venous murmurs became less frequent after the prime of life, although the jugular may be sometimes heard in extreme old age. Between the ages of 30 and 60, I have, in many instances, found the continuous murmur in the neck, but the sternal sound in only one or two cases. I have never been able to detect the latter in persons beyond 60 years of age.

"The following table gives the result of an examination of 671 d people of both sexes:

Females 5, from 50—60 years of age, 1 right ven. mur. 4 absence of sound.								
" 17	60—70	"	1	"	16	"		
" 24	70—80	"	2	"	21	"		
			1	right & left v. m.	—	"		
" 2	80—90	"	—	"	2	"		
—			—		—			
48			5		43			
 Males 2	50—60	"	.	.	2	absence of sound.		
" 6	60—70	"	2	right ven. mur.	4	"		
" 11	70—80	"	1	"	10	"		
—			—		—			
19			3		16			

"In none of these latter cases, male or female, was the sternal venous murmur present.

"In confirmation of these statements, I find Wintrich\* has given the following as the result of his investigations into the frequency of the venous murmur in *healthy* individuals. The per centage is as follows:

Age.		Males.	Females.
1—5	.	97	98
5—10	.	94	95
10—15	.	89	95
15—20	.	86	88
20—25	.	82	88

\* Göschen's Deutsche Klinik, 1850. *Vide* also Medico-Chirurgical Review, vol. ix, 1852, p. 501.

Age.		Males.		Females.
25—30	.	80	.	86
30—40	.	80	.	86
40—50	.	77	.	78
50—60	.	72	.	75
60—70	.	68	.	71
70—80	.	40	.	39

—a ratio which, for ages beyond 30, I have not been able to substantiate.

“ The facts, however, which I have collected will, I think, allow us to establish the following conclusions :

“ 1. That the venous murmur does not necessarily depend upon any abnormal condition of the blood, nor upon any deviation from the health of the individual in whom it may be found, for we have observed it to be almost universal in children, to be present in a large proportion of persons under the age of 25 years, and to exist occasionally in the aged—all in the most perfect health. It is not, therefore, an anæmic or chlorotic murmur, although uniformly present in those conditions of the system which are marked by an impoverished condition of the blood, inasmuch as it has been observed in a multitude of instances to coexist with the rughest complexion and the most perfect health.

“ 2. That the venous murmur is not entirely the result of pressure, although some portion of the sound may be fairly attributed to that cause. The existence of a sternal venous murmur at a spot upon which no pressure can be exerted by the stethoscope, is a sufficient proof that sound can originate in the venæ innominatæ, independent of any compressing cause ; and if in these veins, why not in the jugulars also ?

“ If, then, these murmurs can neither be attributed to the transit of thin and impoverished blood through the veins, nor to the effects of external compression upon the parietes of these vessels, in what mode are we to explain their origin ? I believe very easily. There can be no doubt that the rapidity of the blood in the large veins is usually sufficient to establish a friction capable of causing a sound, which is more or less audible according to the readiness with which the parietes of the veins take up the vibrations, and the facility with which the latter are conducted to the outer surface of the body. The three elements in the production of the murmur in healthy individuals are, therefore,—

“ (1) A certain velocity of circulation ;

“ (2) An elastic condition of the parietes of the vein ;

“ (3) A good conducting medium between the vein and the surface ;

the imperfection of any of which will produce a corresponding diminution in the resulting murmur. The sound is of such frequent occurrence in the healthy child, in consequence of the rapidity of its circulation, the thinness of the parietes of the veins, and the elastic nature of the skin and its subjacent structures. The same reasons apply with equal force to the chlorotic girl, whose ‘ sharp knocking heart ’ indicates an amount of ventricular contraction sufficient to

produce an abnormal velocity in the general current of the circulation. The thin and impoverished condition of the blood, which is an undoubted condition of chlorosis, will also tend to the maintenance of the velocity and to the production of an unusual friction in the veins.\* The increase of age brings with it a diminution in the rapidity of the pulse, a thickened or corrugated condition of the parts around the vein, and a probable alteration in the parietes of that vessel, by which its elasticity becomes impaired. To these causes, may, perhaps, be added a general diminution in the circulating mass. Hence the unfrequency of the sound after the middle period of life."

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 50.—*Iodine Gargles as curative and prophylactic of Mercurial Salivation.* By Dr. NORMAN CHEEVERS.

(*Indian Annals of Medical Science*, April, 1854.)

Dr. Cheevers recommends very strongly a gargle containing from two to five drachms of the compound tincture of iodine to eight ounces of water.

In illustration of the *curative* action, he says:—"In February, 1852, I attended an officer, æt. 48, in an attack of cholera, which was then raging epidemically in Chittagong. The disease was generally attended with extreme danger, and in this case was one of remarkable severity. During the first sixteen hours, I administered 75 grains of calomel. On the third day the sputa became tinged with blood, the gums were swollen and tender, and the spaces between the teeth were filled with coagula. A gargle, containing two drachms of compound tincture of iodine to eight ounces of water, removed all traces of salivation so effectually within about two days that my patient, although a very intelligent man and a rather active dabbler in physic, never appeared to be aware that he had been subjected to mercurial treatment.

"Early in last year, I was called to attend a lady, about 34 years of age, who had been suddenly attacked with an excruciating pain across the umbilical region, which appeared to be associated with a sudden check to the catamenial function resulting from exposure to a draught while very thinly clad. The symptoms were extremely urgent, and a dose of ten grains of calomel was among the first remedies employed. Relief was obtained almost at once; but, on the second day, the tongue was found swollen and clots occupied the interspaces of the

\* The fluid portion may increase in chlorosis, scurvy, and Bright's disease, from the normal 775 to the abnormal 870, 849, and 880 in 1000 parts by weight of blood (Simon's Chemistry). Although blood of such diminished density might be supposed, *cæteris paribus*, to be more readily thrown into vibration than healthy blood, still the venous murmur in such cases is frequently not so loud as in healthy and ruddy individuals, in whom the current of the circulation is maintained in full vigour by a firmly contracting heart. At the same time, hydræmia must be considered to be a predisposing cause of murmurs, venous as well as arterial.

teeth, but little uneasiness was complained of. The iodine gargle was employed with such rapid success that the patient scarcely referred a second time to the condition of her mouth."

In illustration of the *prophylactic* action of these gargles, he writes: "Of late, I have been in the habit of beginning to employ the gargle in all cases where the quantity of mercury given has been such as to render the occurrence of salivation probable. Judging from a confessedly very limited experience of this measure, I apprehend that its early employment will anticipate the occurrence of salivation in all cases where the constitution is good, and there is little or no visceral disease; that, even under the worst circumstances, it will greatly limit the severity of the action; and that, for the most part, the original disease, on account of which mercury was administered, will have its decline rather favoured than otherwise by the absorption of iodine from the mucous membrane of the mouth. A certain degree of doubt will, of course, attend nearly all details of prophylactic treatment, but I think that the following cases may be regarded as encouraging.

"Early in the last rains I was requested to visit a medical officer suffering extremely from an attack of ileus, which I attributed to the sudden outflow of a quantity of a highly-vitiated bile acting as an almost corrosive irritant upon the mucous membrane of the small intestines. When called to him, I found him greatly weakened by intense pain and obstinate vomiting, and by oozing from the bites of several leeches which he had himself applied to his abdomen. He had already taken three or more five-grain doses of calomel, which, however, had not acted upon the bowels. I administered a ten-grain dose almost immediately; and, the disease remaining obstinate, a scruple dose was recommended by Dr. Miller, who met me in consultation, and was given on the following day. The iodine gargle was employed early; and although it was nearly certain that a large proportion of from forty-five to fifty grains of calomel must have fully entered the system, ptyalism did not occur.

"In October last, I attended the children of an European for mumps, which was then rather prevalent in Howrah and its vicinity. All these children had suffered from hooping-cough during the preceding winter. The elder boys did well, but the two youngest, aged respectively about two and four years, were suddenly attacked with laryngitis as the swelling of the parotids began to decrease. Although very actively treated, the younger infant died in little more than twenty-four hours from the onset of the laryngeal symptoms. I found the larynx and trachea absolutely occluded by an exceedingly tenacious croupy deposit. The other child's symptoms were equally violent, but he recovered under very severe treatment, a part of which consisted in the administration of fifteen grains of calomel within as many hours. In a day or two, one or two aphthæ appeared on the tongue, yet it could scarcely be said that salivation was present. The gargle was used freely and no further annoyance was experienced, although the tongue has ever since presented that patchy appearance not unfrequently noticed among delicate children in India."

**ART. 51.—*On the use of Belladonna in profuse salivation.***  
By Dr. ESPENBECK.

(*Hannover Corresp. Blatt.*, June, 1853; and *Edin. Mon. Journal*, Oct., 1854.)

According to a short statement which is made in the pages of our Edinburgh contemporary, it appears that extract of belladonna, in doses of  $2\frac{1}{2}$  grains, in an emulsion, was given to a woman who had been treated profusely with mercury for the cure of enteritis, and who had violent salivation. On the following day the salivation was arrested and the mouth dry. After this the ptyalism returned on suspending the administration of the belladonna, and again disappeared when the use of the drug was resumed.

It appears further, that M. Espenbeck has employed belladonna successfully as a prophylactic against salivation.

**ART. 52.—*On an erysipelatous affection of the Throat.***  
By Dr. TODD, F.R.S., Physician to King's College Hospital.

(*Medical Times and Gazette*, July 15, 1854.)

In a recent clinical lecture, Dr. Todd re-directs attention to a peculiar affection of the throat, not described in books on medicine, rapid in its course, and fatal in its consequences unless properly treated, in which the prominent symptom is difficulty of swallowing. This difficulty does not arise from any mechanical impediment to the onward passage of the food. The fauces are quite open and the channel free. The mucous membrane is dusky and congested. When this membrane is stimulated by the end of the spatula this difficulty of deglutition is at once explained. The deglutatory muscles cannot be made to contract; they seem paralysed. Dr. Todd says, that he has met with several such cases in private practice, and some in hospital practice, of which one is the following :

**CASE.**—The patient is 60 years of age. His health had been pretty good until Wednesday last (Oct. 27th), when he was seized with shivering, which was followed by fever and loss of appetite; at the same time he experienced some difficulty in swallowing. This last symptom had gradually increased up to the time of his admission on Nov. 2d. Dr. Todd says :

I shall read to you the description entered in the case-book on this day (Nov. 2), immediately after his admission :

The patient breathes with some difficulty, as if there were a collection of mucus in the larynx and trachea. He suffers a good deal of pain, increased by pressure beneath the angles of the jaw, but not much in front over the anterior surface of the larynx. There is no enlargement of the glands of the neck apparent externally. His chief complaint is of difficulty of swallowing. When he attempts to swallow anything, it seems to go the wrong way, and appears as if it would suffocate him. He can swallow a little arrow-root, but even that with considerable difficulty. When the food or fluid which he attempts to swallow gets to the back of the tongue, instead of being guided by the action of the faacial muscles into the pharynx, it seems to fall by its own gravity towards the glottis, and then excites a spasmodic state, which produces a feeling of suffocation, and is forcibly ejected, partly through the mouth, partly through the nose. There is no actual impediment to the

passage of the food into the pharynx. The tonsils are not at all enlarged, and the pharyngeal mucous membrane looks red and very slightly swollen, and there is a good deal of mucus upon it. When touched with the finger or spatula, the pharynx is not, as in health, thrown into action, apparently in consequence of paralysis of the pharyngeal muscles. The peculiar state of the mucous membrane extends to the larynx, for the epiglottis feels slightly swollen, and he spits up a good deal of mucus. He is very restless, and sleeps badly at night. Bowels confined; pulse 96; respirations 30; urine acid, containing much blood, which, under the microscope, is seen to consist of numerous scattered blood-corpuscles, with casts which consist entirely of blood, or of the result of rupture of the Malpighian vessels.

The condition of this man's throat appears to me to be that of erysipelatous inflammation, the poison having fallen with its whole intensity upon the fauces. It is not uncommon to meet with slighter cases of erysipelatous inflammation of the fauces in connection with erysipelas of the head and face. Sometimes the erysipelas begins in the throat, and spreads outwards through the nose and mouth. A patient will first complain of sore throat, and in a day or two afterwards the face will be affected. At other times the sore throat appears to come on simultaneously with the external erysipelas.

In the class of cases to which we must refer that of our patient, no tendency to spread outwards has manifested itself, so far as my experience goes. It does, however, show a tendency to spread to the laryngeal and bronchial membrane, as was particularly observed in Covey's case. Many of the fatal cases of œdema of the glottis commence in this way.

Our patient was promptly treated in the manner I have indicated in the lecture already referred to. The throat was freely washed with a solution of nitrate of silver (gr. xx, ad  $\frac{3}{4}$ j). A mustard poultice was applied to the throat externally. He was ordered two drachms of brandy in arrow-root every three hours, and carbonate of ammonia with chloric ether was given freely.

On the 3d there was no improvement; prostration very great; pulse 90, and very compressible; can scarcely swallow anything; the attempt to do so nearly suffocates him; has scarcely swallowed any of the brandy and arrow-root; the mucous membrane of the throat is red, and secretes a quantity of muco-purulent fluid, and uvula slightly swollen.

The solid nitrate of silver was now applied freely to the mucous membrane of the fauces; and he was ordered to have an enema, consisting of ten grains of quinine in three ounces of strong beef-tea, every three hours; the rectum having been first cleared out by an enema of warm water. He was allowed brandy if he could swallow it.

The next day (Nov. 4) the report was more satisfactory; the pulse is better; he has had the enemata regularly, and retained them all; swallows much better, and gets down at least nine tenths of what is offered to him.

November 5.—Still improving; throat less sore externally; secretion much diminished; swallows all that is brought him; continues the enemata and the brandy; pulse 80. He was now ordered chloric ether, ammonia, and bark, and the enemata were discontinued.

From this date our patient rapidly improved. On the 6th his pulse had fallen to 70, and all difficulty of deglutition had disappeared; the urine assumed its natural condition; but the patient continued weak for a long time, and did not leave the hospital till the 27th.

This is a good example of this peculiar affection of the throat; it is analogous to the scarlatina sore-throat; but in the latter affection you always meet with more or less of swelling, and mechanical impediment, with a tendency to, or actual ulceration.

ART. 53.—*Observations of Morbid Changes in the Mucous Membrane of the Stomach.* By Dr. HANDFIELD JONES, Assistant-Physician to St. Mary's Hospital.

(*Medico-Chir. Trans.*, vol. xxxvi, 1854.)

The first part of this communication comprises a description of the minute glandular structure of the mucous membrane of the stomach, in which the author corroborates the account given by Kölliker. On first commencing his researches into this subject, he was not aware that lenticular or solitary glands had been seen in the mucous membrane of this viscus. The author not imagining they could be normal structures, had at first viewed them as simply nuclear deposits, supposing they were of new formation. Kölliker had observed that these lenticular glands did not constantly occur in the stomach of adults, even though they might be possibly always present in those of children. In very many cases he had met with no traces of them; in others they were seen to be extremely numerous, covering the whole surface of the stomach; yet the thought could hardly be excluded, that the morbid conditions of the part, which were always present, had not had something to do with their formation. The author thought it difficult to fix any exact limit to the healthy development of these glands. He considers the gastric tissue in its most normal and efficient state when there were but few of these glands or nuclear masses, and when those that existed did not encroach materially upon the tubular or gastric glands of the stomach. He thought great individual varieties might exist; that they were naturally larger and more numerous in some individuals than in others. He ventures to think that these solitary glands and their groups in the intestines (Peyer's patches) had really no use, and fulfilled no function in the human body, but existed in a rudimentary state in obedience to the law of unity of type. They might be regarded as portions of undeveloped embryo substance, existing in inverse ratio to the surrounding specially organized tissues, and with this view their simple nuclear structure, so common in embryonic parts, was very accordant. Dr. Jones's opinion is that the epithelial contents of the tubular glands are thrown off during digestion, and form an important constituent of the gastric juice, probably the so-called pepsin. The evidence of this rests on examination of the stomachs of animals killed while digestion was proceeding, and of a man who died suddenly soon after a meal. The following deviations from the typically healthy condition of the stomach are mentioned as examples of morbid changes:

1. *Nuclear masses.*—It is doubtful what degree of development of these is to be considered as surpassing the physiological limit; but observation proved that they became both hypertrophied and atrophied, and the latter seemed to take place by a kind of liquefying, so that a cavity was formed containing a clear fluid and some nuclear corpuscles.

2. *Diffused nuclear formation.*—The effect of this is, that the tubes become more or less atrophied and obscured by interstitial deposit.

3. *Intertubular fibroid formation*.—The tubes become atrophied by the presence of a fibroid or granular deposit, in which some altered vestiges of the tubes might be brought into view by acetic acid.

4. *The tubes appear to decay spontaneously*, but not from the presence of new fibroid tissue.

5. *Black pigmentary deposit*, occasionally within the tubes, more often between them; sometimes yellow pigment is found; both may be regarded as altered haematuria.

6. *Cystic formation*: produced in one of three ways:—First, a nuclear mass liquefied and left a cavity; secondly, white atrophy of the tubercular glands was going on, and a portion of one became distended; thirdly, a cyst was produced as a large vesicle, a true new formation.

7. *Mammillation*, usually affecting the pyloric region.

8. *Gathering up of the lower parts of the tubes*, so as to form a group of convolutions like the acme of a conglomerate gland.

9. *Unhealthy condition of the epithelium of the tubes*, occasionally exhibiting the characters of a fatty degeneration.

10. *Self-digestion* was of frequent occurrence, and invariably confined to the splenic region; the mucous membrane was more or less deeply coloured, thinned, smooth, and semi-translucent. In extreme cases the nerves and vessels were seen altered, as when treated by strong acetic acid.

11. *Small dark-red circumscribed spots*, manifestly the result of hemorrhage; ulceration often takes place in these.

12. *The tenacious adhesive mucus of gastric catarrh*.—Its microscopical characters are very clearly described.

The author has observed torulae in the mucus of the stomach of a diabetic patient. The paper is accompanied by a table of 100 cases of post-mortem examinations, in which the morbid changes in the mucous membrane of the stomach are fully and minutely described, together with an analysis of these cases, in which the influence of age and sex, habit of life, &c., are considered, as well as the frequency of the several morbid changes already enumerated. Eight drawings, executed by the author, illustrate very intelligibly the diseased conditions which the microscope had revealed.

In further elucidation of the subject of this paper, Dr. Jones says, that all that his inquiries went to show was, that degenerative changes might be going on in the stomach concomitant with other diseases in which there was a degenerated state of the blood, as anæmia, and diseases of a like character. This degeneration, too, might be progressing without attention being specially called to the stomach, the prominent symptoms of dyspepsia being absent. This was explained by the circumstance, that when the stomach was in a tolerably healthy state, sensations of dyspepsia might exist; but when there was degeneration, such as he had described, the sensibility was destroyed, and no symptoms of indigestion presented themselves. His observations, then, had made no advance in the treatment of dyspepsia. As our knowledge advanced by after-labour in the course which he had commenced, we might, perhaps, be enabled to detect the early symptoms of this or similar diseases, and be able to guard our patients

against habits which would produce them, and which, when once established, were as fatal as Bright's disease, or other affections coming under that category. These inquiries would call upon us to watch carefully the symptoms of failing health in our patients, and so, perhaps, prevent the occurrence of incurable disease. He had no suggestions as to treatment, except that of support generally. With respect to the connexion of the disease with delirium tremens, he had seen two cases of this affection in which the degeneration existed; there was nothing particular in them, and the delirium tremens was associated with granular disease of the kidney, or some other disease. —In reply to other questions, Dr. Jones says that he had found the changes to which he had referred, connected usually with depressing diseases, such as phthisis, anaemia, &c. He had had no opportunity of knowing, as the patients had usually died from acute diseases in the hospital, whether they had suffered from dyspepsia in former years, or whether they had been treated by drastic purgatives and other active treatment. It was probable, however, that they had suffered from dyspepsia. The change he had described differed altogether from that which was observed as the result of inflammation; the tissue was remarkably pale, and there were no traces of injected vessels.

#### ART. 54.—*On Gallic Acid in Pyrosis.* By Dr. BAYES.

(*Association Medical Journal, June 28, 1854.*)

The subjoined remarks are from a very good paper 'On the use of Gallic Acid in the Hemorrhagic Diathesis, and in diseases characterised by relaxed fibre or excessive secretion.' Dr. Bayes thinks this remedy is worthy of every confidence:

1. In active hemorrhages.
2. In passive hemorrhages.
3. In excessive secretions, as in pyrosis, serous diarrhoea, chronic bronchitis, bronchial flux, profuse night sweats, some forms of dysentery, and perhaps in diabetes.
4. In atonic states generally, and especially in rachitis.
5. As an adjunct to other means in piles, wounds, &c.

The most novel part of the paper, and that which requires especial notice, is that which concerns pyrosis. Dr. Bayes writes:

"In pyrosis, where this disease is unaccompanied by extensive ulceration, or organic malignant disease of the stomach, or by disease of the liver, the most marked benefit will follow the use of the remedy. Gallic acid, here, not only checks the secretion with a certainty and rapidity I have never seen follow the administration of any other remedy, but it gives general tone to the stomach, increases the appetite, and (what I very little expected when I first used it) in many cases removes constipation. This I can only account for on the supposition that the relaxed atonic state of the stomach which favours pyrosis is continued throughout the alimentary canal, the constipation in these cases arising from want of power in the muscular coats of the intestines to expel the faeces. This want of tonicity is remedied by

gallic acid. The cases of pyrosis which have fallen under my observation, since I have adopted the gallic acid treatment, have been very few; indeed I believe it to be a very infrequent form of disease in Brighton. Out of 945 cases of general disease, which have come under my care at the dispensary during the past twelve months, only eight patients have suffered from this disorder. These have been all females. I have the notes of five of these cases before me. The first was a female of twenty-five years of age, unmarried; she had been for eight months suffering from pyrosis and obstinate constipation, during which period nearly every remedy of reputed value had been administered. She was completely cured in two days. I kept her under my care for three weeks, continuing the gallic acid and occasional doses of castor-oil. I have seen her since, and though some months have elapsed, she has remained perfectly well. The second case was a female, forty-nine years of age. The pyrosis ceased after the second dose of the medicine. She discontinued the treatment a week afterwards, and had a slight return the following morning, which again gave way to the medicine, and by a continuance of the pills for three weeks, she has remained perfectly well ever since. In the third case, the remedy proved equally successful. In the fourth, a married woman of thirty-five, who had suffered from the disease nine months, the distressing symptoms abated considerably at the fourth day, and entirely left her on the eighth day. In the fifth case, a female of forty-five, there was no return after the first dose. In one case only have I found it to fail, and this woman is still under my care; she is forty-nine years of age, and is, I fear, the subject of malignant disease, together with organic disease of the liver. All the first five cases presented a general similarity in the relaxed muscular fibre of the body, and pale watery appearance of the mucous surfaces."

**ART. 55.—*On Vegetable and Mineral Acids as prophylactic and remedial in Epidemic Disorders of the Bowels.* By J. H. TUCKER, Esq.**

*(Lancet, July 15, 1854.)*

In this paper (read before the Epidemiological Society) Mr. Tucker begins by alluding to the remarkable, but well-established fact, that in 1849 the cider districts of Herefordshire, Somersetshire, and part of Devonshire, were, to a great extent, exempt from the epidemic ravages of cholera, while the disease was raging around. Upon further inquiry it was ascertained that this exemption was confined a good deal to those individuals who drank cider as a common beverage, and that those who partook of malt liquor occasionally suffered. He also remarks, that in some parts of France and in Normandy, more particularly where cider is the common beverage, cholera is seldom known to exist; and, further, that Switzerland is reported to have been free from its visitation.

Having adduced these and other facts in proof of the prophylactic power of cider, the author expresses his opinion that other vegetable

acids would be found of service, such as lemon-juice, orange-juice, and sour wines made from grapes, or even from gooseberries. And as it would be found impossible to supply the whole of London with a sufficient quantity of pure cider, it is suggested that *vinegar* might be found a useful substitute in case of another outbreak of cholera, provided it could be obtained in a state of purity. In confirmation of his view of the sanative and medicinal virtues of vinegar, the author quotes Hippocrates, who (*de natura muliebri*) "employed white vinegar medicinally"—Plutarch and Livy, who refer to the use of vinegar by Hannibal, in his passage over the Alps, when he is said to have "softened the rocks with fire and vinegar," an operation which the author facetiously regarded as rather metaphorical than chemical, as the vinegar, swallowed by the troops, probably sustained their strength, and thus in effect softened the asperities of their rough way. The author also quotes from Roman history the story that "Scipio Africanus is said to have gained a great battle with a few skins of vinegar," the troops refusing to march until the general had obtained a supply. Cæsar is also reported to mention in his 'Commentaries' the supply of vinegar to the troops; and Mr. Tucker remarked that the drink of the Romans in all their campaigns was vinegar and water, and, sustained by that beverage, they conquered the world. Modern authors (Sir John Pringle, Sir Gilbert Blane, and others) were also quoted in proof of the antiseptic and medicinal qualities of vinegar. Mr. Tucker then proceeds to show that acid drinks were not only preventive, but remedial in epidemic disorders of the bowels. Cases are related, in which not only persons were exempt from attacks of cholera raging around them, who drank large draughts of cider, and a case of severe cholera is also related, which yielded to the diluted juice of sour apples. The efficacy of the *mineral acids*, especially the sulphuric, in diarrhœa, and especially in choleraic diarrhœa, is also advocated by reference to numerous facts and authorities. He also refers to some established facts connected with the spread of epidemic dysentery in the army, showing the efficacy of vegetable acids in that disease.

#### ART. 56.—*Case of prolonged Constipation.* By Mr. GAY.

(*Pathological Transactions*, vol. v, 1854.)

This case was exhibited before the Pathological Society on the 18th of October, 1854, as showing the connexion between the constipation and an attack of dysentery, and as proving that persistent and complete constipation of the bowels might exist for four months without occasioning any interruption to the processes essential to the general function of nutrition.

CASE.—A lad, æt. 7, of healthy appearance, was admitted into the Royal Free Hospital, in July, 1853. Four years ago he had an attack of typhus fever, accompanied with abdominal tenderness and dysentery.

On recovering, his bowels became so exceedingly torpid, that it was necessary to administer strong purgatives, or enemata, in order to procure any

evacuation from them. This torpor gradually increased, so that after about two years these means failed of having any effect whatever. *During the three months prior to his admission nothing whatever passed from his bowels*; and he was accordingly sent from Rochford to Mr. Hogg, of Finsbury, and he then came under Mr. Gay's care. Notwithstanding this condition of the bowels, his health had not apparently suffered in the least degree; his appetite had in no respect failed him; nor had he been sick but on one or two occasions, and then in consequence of his having taken unwholesome food. His body, however, had gradually enlarged—to the size of forty-nine inches in girth; but without material inconvenience to his respiratory organs. On examining the abdomen, it was found to be uniformly very tense; the recti muscles were rigid, but the oblique and transversales, especially on the left side, were flaccid, and had evidently yielded more passively than the recti, to the distension within. Along the left side there was a considerable prominence or broad ridge, corresponding to an enlarged descending colon, and its sigmoid flexure. Just below the navel a portion of intestine had protruded, apparently through a rent in the linea alba; it could be reduced, but not retained within the abdominal walls. The abdomen was in parts (varying, as was afterwards found, from day to day) resonant on percussion, but, for the most part, dull; and on palpation distinctly gave an impression as though it was distended with solid lumpy matter. A series of remedies were used, but without effect; and it was not until after the expiration of three weeks that any faecal matter was obtained from the bowels; and then only by the following means:—A speculum was passed into the rectum; and, after dilating the sphincter, the tube of an enema syringe was passed high up into the bowel, and its contents washed out by a stream of warm water, which was kept continuously playing upon them for the space of nearly half an hour. The distension of the sphincter seemed to excite peristaltic action, and thus materially to assist in dislodging the contents of the bowel.

A large quantity of faecal matter, hard and black, and much resembling common cinders in appearance, was by this means brought away. This operation has now been repeated several times with similar results, and with the effect of reducing the size of the abdomen to that of twenty-six inches in circumference.

At present on passing the tube into the bowel, there is little doubt but that it enters a capacious and tolerably flaccid sac; and that this sac is formed by a distended and, in all probability, a palsied condition of the descending colon, and its sigmoid flexure. A bandage is kept constantly applied around the abdomen; the confection of black pepper, aloetic purgatives, strychnia, and other remedies, have also been given, but as yet no spontaneous effort whatever has been at any time made by the bowels to relieve themselves. The urine has been constantly of a deep colour, of a high specific gravity, and laden with lithic acid and lithates.

#### ART. 57.—*Oil of Pumpkin-seeds in Tape-worm.* By Dr. PATTERSON.

(*Philadelphia Medical Examiner*, Oct., 1853.)

In this article Dr. Patterson states his belief that the fixed oil which is yielded by pumpkin-seeds, on compression, will be found to be a valuable and convenient remedy for tape-worm. He has not tried it himself, but it has been tried at his suggestion by Mr. John C. Lyons. The patient was a poor woman. After twenty-four hours'

rigid fasting, half an ounce of the oil was given, and a second half-ounce after an interval of two hours. This caused some disposition to diarrhoea. After a second interval of two hours, an ounce of castor oil was given, and this purged freely and brought away a considerable quantity of the worm. Three months have now elapsed, and there has been no return of the worm symptoms.

The oil is clear, transparent, of a light brownish-green colour, with a slight oily odour, and a perfectly bland taste, like that of the oil of sweet almonds. Fourteen ounces were obtained from four pounds of the seeds, but a much larger quantity might be obtained if the operation had been conducted on a larger scale and more carefully.

ART. 58.—*A remarkable case of Intus-susception, &c.*  
By Mr. CHARLES KING.

(*Lancet*, June 17, 1854.)

This case is a remarkable illustration of the power of the *vis medicatrix naturæ*. The cæcum, with its vermicular process, and part of the ascending colon, became invaginated, and then separated and were expelled *per anum*; subsequently the leg mortified and separated spontaneously below the knee; and yet for all this the patient, a mere child, recovered. Mr. King writes :

CASE.—W. P —, æt. 6, a little boy, with fair hair and complexion, and of previous good health, was attacked without obvious cause, on the 27th of October, 1852, with swelling and discolouration of the calves of both legs; they were mottled in appearance, painful, and cold to the touch. The next day these local symptoms had subsided, but severe and nearly constant vomiting came on; this was accompanied by constipation, with much pain and tenderness in the abdomen, especially in the right iliac region. I adopted all the usual measures likely to relieve such symptoms, administered injections *per anum*, &c., but without any marked beneficial effect, a little hardened feculent matter only being brought away by the enema. The patient continued much in the same state for four days—viz., until the 2d of November, when the vomiting ceased, and severe general convulsions and insensibility supervened. He lay for twelve hours perfectly unconscious, with a widely dilated pupil, unacted on by light, a quick, thready pulse, cold, clammy perspirations, and a mucous rattle in the chest. Under the influence of the most powerful stimuli he rallied. A blister was applied to the nape of the neck, and one-grain doses of calomel administered every four hours. Beef-tea was also ordered to be taken *ad libitum*. Convulsions continued at intervals during twenty-four hours—viz., till the night of the 3d, when he slept pretty well, and on the 4th seemed, on the whole, in a better condition. Complete consciousness had returned, but pain was still complained of in the right iliac region, and the whole abdomen was slightly distended and tympanitic. The constipation continued complete, and an injection which was this day administered returned offensive, and mixed with dark blood. Calomel was still given, but in half-grain doses.

During the next four days no material change occurred; no motions were passed from the bowels; no injections were administered, but fluid nourishment was given freely.

On the 7th of November the mucous membrane of the mouth was observed

to be slightly ulcerated, but the breath had no unpleasant odour, nor were the gums swollen. The mercury was, however, discontinued. Not any active or urgent symptoms were now present, but the patient was of course much debilitated. On this evening (7th), being eleven days after the commencement of the symptoms, five days after the vomiting had stopped, and four days after the cessation of the convulsions, he passed the cæcum, with its vermiform process, and part of the ascending colon, and of which a drawing and the preparation are in the Museum of Guy's Hospital. The intestine has been entirely opened, but at the time it was passed the cylinder was complete in many parts. The mass was passed without the patient's knowledge, and during sleep. The next morning he had a natural and solid motion, and seemed improving in condition. No change in the symptoms occurred during the next day or night (the 8th), and he slept well; but on the morning of the 9th, the left leg was noticed to have become cold, and on examination I discovered that the arterial pulsation in the groin, and below that point, had ceased. The patient, however, complained of nothing, was allowed a nourishing diet, and the limb was wrapped in flannel. During the day he had diarrhoea, which it became necessary to check by astringent medicines.

It will not be needful again to refer to the intestines, for since this time they have acted pretty regularly and naturally, and have given me no further trouble.

The patient's health was kept up by wine, tonics &c., but the whole leg below the knee soon became gangrenous. This proceeded rapidly, and on the 18th of November I solicited Mr. Hilton's opinion on the case, especially as to the propriety of immediate amputation. The line of demarcation not being very clearly defined, the strength of the patient not being good, and bearing in mind the necessary loss of blood which must occur in performing amputation, it was thought better to rely upon the efforts of nature to repair the injury done, experience having shown that spontaneous separation by gangrene very often occurs satisfactorily below the knee-joint, a circumstance probably depending on the free arterial anastomosis from many and different sources at that part. Warmth in the limb was felt to about three inches below the patella, but beyond that point it was cold. The whole limb was now enveloped in cotton wool, and exposed only every second day. Infusion of serpentine and sesquicarbonate of ammonia were administered three or four times daily.

On December 1st the line of demarcation was distinct exactly across the middle of the knee-joint, the superficial parts below which were in a state of slough. The patient's health was tolerably good. The offensive effluvia from the dead structures being great, I cut through the soft parts about three inches below the patella, and then sawed through the subjacent bones. The stump was dressed with a nitric acid lotion. In a few days the whole of the remaining sloughs of soft parts had separated, and in such a manner that three openings were formed, an inner exposing nearly the whole of the internal condyle of the femur, an outer exposing the external condyle, and an anterior exposing the whole of the cutaneous surface of the patella. Below these openings a broad ring of living vascular structure encircled the heads of the tibia and fibula; the divided ends of those bones of course protruded beyond the soft parts. The surface looked tolerably healthy and vascular, but it seemed too much to expect that granulations should cover the large surface of bone exposed; it was therefore considered whether it might not be advisable that the femur should be sawn through just above the condyles, and a flap to cover it made posteriorly, where the skin continued healthy, and well supplied with blood. Delay was, however, resolved on, as it was hoped that granula-

tions might creep over the condyles, cover the patella, and that, on the separation of the dead ends of the bones, nature might effect her own cure, with a long stump and a good bearing point upon the knee. This hope has been completely realised. Strict attention was paid to the patient's health, and care taken in dressing, and on the 16th of January granulations had completely covered the condyles and the patella, and Mr. Hilton on that day twisted off the shafts of the tibia and fibula from their epiphyses. The openings thus made soon closed, and the whole stump commenced to skin over. Powdered bark was applied to the surface of the granulations, with nitric acid wash. Tonics and wine were given in full doses. This process of healing proceeded slowly, and occupied some months for its completion, the tender recently-formed skin having a constant disposition to ulcerate in patches with the slightest deterioration of the patient's health; however, I am now happy to report that the stump has completely healed, and will bear pressure well, and is a remarkably good one. The epiphyses of the tibia and fibula which remain are turned back, and the limb now resembles in appearance a very high amputation below the knee.

I may add that the pulsation in the left groin is still absent, and also that the patient now frequently suffers from indigestion. The attacks are somewhat acute, are attended with fever, pain in the abdomen, and terminate with slight diarrhoea. On one occasion an attack was clearly caused by vegetables which he had taken. It may be interesting physiologically to consider whether the diminished length of the large intestine may not have an influence in producing these symptoms.

ART. 59.—*Profuse Sweating a symptom of Congested Liver.*  
By Dr. DURRANT, Physician to the East Suffolk and Ipswich Hospital.

(*Assoc. Med. Journal*, Oct. 6, 1854.)

In our opinion this observation is deserving of very great attention. We can remember more than one case, and one too well, in which this symptom of profuse sweating was connected with an extremely congested liver, congested together with the lungs, the venous side of the heart, and the venous system generally, on every temporary failure in the action of a weak heart, and, in which, after Dr. Stokes's suggestion, the best means of affording relief was to preface the administration of the necessary tonics and stimulants by unloading the liver by means of a blue pill. When, therefore, Dr. Durrant says that his "object in detailing these simple cases is to show that we are not at once, under the idea of combating debility, to administer tonics and mineral acids, but rather to seek to remove the true pathological cause, which will often be found to exist in a congested condition of the hepatic circulation;" we fully sympathise in the importance of that object.

CASE 1.—A gentleman, accustomed to field sports, had previously enjoyed good health. On my visiting him, I found him in bed, depressed in spirits, bathed in perspiration, emaciated, and with the certain foreboding that he was labouring under some organic affection of the heart or lungs, and which an injudicious communication from a medical friend had not served to alleviate. The perspirations had been and were most profuse both by day and night, and was the symptom that most annoyed him. His tongue was coated, and

he complained of weight and uneasiness in the right hypochondrium. The pulse was 110; the heart's action was irritable, but otherwise normal; the lungs were healthy. On examining the evacuations—a proceeding which, in these cases, ought never to be omitted, as the report of both patient and nurse is, with scarcely an exception, fallacious—they were found to be in the highest degree unhealthy, being dark, bilious, and very fetid. The urine was scanty and very high coloured, but without deposit. Under the impression that the perspirations resulted from debility, the patient had been ordered quinine with full doses of sulphuric acid, and a somewhat stimulating diet. Under a broth and farinaceous diet, and the simple exhibition of salines, with a steady perseverance in blue pill and colocynth, the evacuations became natural, and the perspirations ceased.

This gentleman has continued well, and is now stout and in the best of health.

CASE 2.—A gardener, without feeling decidedly unwell, or being compelled to discontinue his employment, was the subject of profuse perspiration, principally of the head, face, and chest, which occurred chiefly at night or early in the morning, quite irrespective of physical exertion.

This case proved an obstinate one, and required the repeated exhibition of alterative aperients for two months. He has quite recovered.

ART. 60.—*Case of Apoplexy of the Liver.*  
By Dr. FOOTE, Physician to the Norwich Lunatic Asylum.

(*Dublin Medical Quarterly*, Aug., 1854.)

Apoplexy of the liver is of very rare occurrence, and when it does occur it is chiefly in infants, as the consequence of impeded respiration and pulmonary circulation, from suffocative catarrh (Rokitansky). Dr. Foote's case, therefore, is of considerable interest.

CASE.—R. H., male, æt. 58, married, was admitted into the Norfolk County Asylum, Aug. 11th, 1840, suffering from moral insanity, with homicidal propensities, and epilepsy. He had been a seaman, and very intemperate; but for some years before his admission he had been a bricklayer, and a sober, staid man. His first attack of epilepsy was twenty years ago.

After admission, very little change was noticed until April, 1854, when he suffered from apparent general debility, with small ulcers of the legs, and slight oedema, for which he remained in bed. He became gradually worse, and on April 21st it was noticed that there was some swelling of the face, an apparent swelling of the abdomen, and shortness of breath. The urine, on examination, was found to be highly albuminous and acid, with a specific gravity of 1012. The diet, which had consisted of meat daily, with beer, &c., was changed for beef-tea, and milk, and an occasional mercurial, with saline aperients. At the end of two weeks he had improved, the abdomen became less, and the respiration was natural, but the epileptic attack still occurred as usual, about two or three every fourteen days.

He was unable to get up, and therefore remained in bed; and on 24th of May, at 9 p. m., was seized with a severe epileptic fit, which lasted half an hour; an interval of about a quarter of an hour took place between it and another attack. He suffered from repeated fits during thirty hours, until he died.

He was very stout, sedentary, and voracious.

The only appearances disclosed on examination after death, which need be noticed, are those which concern the abdomen, and these are thus related.

*Abdomen.*—Stomach empty; mesentery and all the viscera loaded with fat.

The liver was firmly adherent on the upper surface of the right lobe; left lobe free. When removed, this organ weighed 71 ounces. On the anterior two thirds of the right lobe, beneath the peritoneal covering, was a firmly coagulated clot (apparently of recent origin), of a heart-shape form, and seven inches by six in superficial diameter. The appearance which it exhibited gave the idea of a smaller liver placed upon the surface of the right lobe. The left lobe was small.

On slicing the liver, it was found that the clot was about one inch in thickness anteriorly, becoming thinner as it proceeded backwards. The substance of the liver was paler than usual, having a fatty appearance. In the centre of the right lobe were three smaller clots, about one inch each in diameter, and connected with that on the periphery; around each of these small clots was a thin layer of a yellowish, soft substance, looking like tubercle, which, on microscopic examination, proved to be fat.

The spleen was everywhere adherent to the diaphragm; weight, four ounces.

The kidneys, when cut, exhibited a yellowish, fatty appearance of the cortical substance, which was very thin, and this appearance extended to the interpyramidal substance. The right kidney weighed five and a quarter ounces, and had on its surface some small, serous cysts; the left weighed five ounces.

In conclusion, it may be well to notice that, from the observations which have been hitherto made, albuminuria is of rare occurrence among the insane. Dr. Sutherland, of St. Luke's Hospital, in 1845, found that of 192 individuals labouring under the different forms of insanity, in whom the urine was examined, it was albuminous in only *seven* cases.

#### ART. 61.—*Case of Primary Cancer of the Spleen.* By DR. GUENSBURG.

(*Gaz. Med. Toscana*, 1854; and *Dublin Quarterly Journal*, May, 1854.)

The spleen is one of the organs least liable to be primarily affected with cancer. Lebert, in his work on Cancerous Diseases, states that he has never met with such a case. The exceptional nature of the lesion, therefore, renders the following history worthy the attention of pathological anatomists.

A woman, æt. 40, had suffered for a year from weakness, attacks of fever, and lancinating pains in both hypochondriac regions, so violent as to deprive her of sleep. Dr. Guensburg having been summoned to attend her, found her in a state of extreme emaciation. In the left hypochondrium was a tumour reaching to within half an inch of the epigastrium, and extending downwards to the level of a line drawn horizontally from the umbilicus. This tumour was hard, and presented an irregular surface; the dulness on percussion extended to the left axillæ; the liver retained its ordinary volume; there was constipation; the sounds of the heart were normal; the pulse was small, and varied from 100 to 108; the blood contained a few white globules. The patient died with symptoms of general dropsy in four months after having

been placed under treatment. On post-mortem examination there was found effusion of limpid serum in both pleuræ; some tubercles in the apices of both lungs; limpid serum in the pericardium. The heart was small; there was some opacity of the mitral valve; the heart and great vessels contained a little blood and some fibrinous coagula. There was effusion of serum into the abdomen. The spleen was about a foot in length, six inches in breadth, and the same in thickness; its surface was studded with hemispherical elevations as hard as cartilage. The tumours, which were difficult to remove, were of a deep-brown colour mixed with white, and occupied the entire spleen; there were scarcely any traces of normal tissue in the organ. The lymphatic glands surrounding the spleen and pancreas were infiltrated with a soft whitish substance. The peritoneum was swollen, opaque, and easily torn. The remaining abdominal organs presented nothing remarkable. Microscopic examination revealed the existence of cancer cells in the morbid tissue of the spleen.

ART. 62.—*Rules for practising Iodine Injections in Ascites.*

By M. TESSIER.

(*Bull. de Ther.*, 1854; and *Gaz. Méd. de Paris*, April 22, 1854.)

These rules are three in number—

*First.* Not to empty the peritoneal cavity before practising the injection. This is obvious, for if the injection be not diluted, and diffused by the ascitic fluid it might act too powerfully and partially upon the peritoneum. Death from peritonitis has happened from the want of attention to this precaution.

*Second.* To order the strength of the injection in conformity to the composition of the peritoneal fluid, the strength being in direct relation to the alkalinity and albuminosity. When this liquid is clear and but slightly alkaline and albuminous, M. Tessier injects from twenty to thirty grammes of tincture of iodine, and two grammes of iodide of potassium; where the liquid is decidedly albuminous, sanguineous or purulent, and especially if it be very alkaline, he doubles these quantities.

*Third.* To practice a preliminary tapping some days previously, if the abdomen is very voluminous, in order to diminish the peritoneal surface, and so lessen the risk of peritonitis.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 63.—*A new method of determining the amount of Urea.*

By Dr. E. DAVY.

(*Phil. Mag.*, June, 1854; *Medico-Chir. Rev.*, Oct. 1854.)

Dr. Davy has discovered what appears to be a simple, and, according to the present evidence, an accurate mode of determining the amount of urea. It is founded on a fact discovered by Dr. Davy, that urea is readily decomposed by admixture with the hypochlorites of soda, potash, or lime; its constituent nitrogen is given off, and, from its amount, the quantity of urea is determined by a simple calcula-

lation. The manipulation appears to be extremely easy; a measured quantity of urine is introduced into a graduated tube (partly filled with mercury), and then an excess of the hypochlorite of soda is added and the tube is inverted; in a few seconds the urea begins to decompose, the carbonic acid is absorbed by the hypochlorite, and the nitrogen collects in the upper part of the tube. In three or four hours the decomposition is complete.

Dr. Davy has made some comparative experiments with this and with Liebig's method, and the results very closely accord. Sugar, albumen, bile, and excess of urinary colouring matter, do not affect the accuracy of the results.

**ART. 64.—*Observations on Urine according to Liebig's Method.***  
By Dr. ALFRED VOGEL.

(*Zeitsch. für Rat. Med.*, Bd. iv, 1854; and *Medico-Chir. Rev.* Oct., 1854.)

1. Dr. Alfred Vogel has determined the amount of urea and chloride of sodium excreted in twenty-four hours, in a great number of patients. The well-known method of Liebig was the one employed. The following are his conclusions:

(1.) In typhus (abdominalis=typhoid fever) and in pyæmia, the excretion of urinary ingredients (urea and chloride of sodium are the only ones determined, *Rev.*) is increased as long as the febrile symptoms continue. The chloride varies especially, according to the food; it is particularly diminished in great splenization of the lungs. The increase of the urea indicates the consumption of the nitrogenous tissues.

(2.) When the fever is over, the quantity of urea falls below the normal amount, in spite of the increased quantity of nitrogenous food; it then, after perfect recovery, returns to the physiological standard.

(3.) In morbus Brightii of both kidneys, without acute complication, the urea is diminished in amount, though the quantity of urine is usually increased. The chlorides vary according to the food, and to the increase and decrease of the dropsy.

(4.) Kidney calculus, or cysts, do not diminish the excretion of water and of urea, if a portion of the kidney is still capable of its functions.

(5.) In rapid absorption of serous exudations, the quantity of water and of the chlorides is greatly increased; the urea is also but moderately increased. Under these circumstances, the amount of the chlorides rises and falls in proportion to the quantity of urine; this is not the case with the urea.

(6.) In polydipsia hysterica the quantity of urine is enormous, but the absolute quantity of the urea and of the chlorides is small. The solids of the urine are not augmented with the water; and of the solids (here examined) the chloride passes off more readily than the urea.

(7.) As determined by Heller and Beale, the chlorides diminish in pneumonia, as long as the hepatization proceeds, and increase after resolution.

(8.) A certain quantity of urea (6—8 grammes=92½ to 123½ grains

in twenty-four hours), is present in the most extreme atrophy, and when no nitrogen is introduced by food into the system.

On looking over the tables, we observe that the largest amount of urea ever noticed was in a case of pyæmia, in which it reached the enormous amount of 1235.5 English grains in twenty-four hours. The next greatest amount was in a case of typhoid fever, in which, in twenty-four hours, 1065.636 grains were passed. (The normal average, according to Bischoff, is 540.540 grains.) The lowest amount excreted was in a case of carcinoma of the liver, with great atrophy; on one occasion there were only 104 grains excreted in twenty-four hours.

**ART. 65.—*On the Vibrios and other Organisms which are found in Alkaline and Albuminous Urine.*** By Dr. HASSALL, Physician to the Royal Free Hospital.

(*Medico-Chir. Trans.*, vol. xvii, 1854.)

Having first given a description of the vibrios of the urine, Dr. Hassall enumerates the causes and conditions under which they are developed, and arrives at these conclusions:—

1. That vibrios are not developed in strongly acid urine so long as it retains its decided acidity.
2. That so soon as such urine has lost a considerable part of its acidity, and has become but feebly acid, vibrios begin then to appear. It is thus that the occurrence of both torulæ and vibrios in the same urine is explained. While the urine is strongly acid, the torulæ are formed; but, as soon as the acidity becomes greatly reduced, the vibrios make their appearance.
3. That vibrios are invariably developed in different proportions in all urine which is either feebly acid, neutral, or more particularly alkaline.
4. That the greatest development of vibrios takes place in all urine which contains most animal matter, as mucus, epithelium, and albumen, and which, at the same time, are decidedly alkaline. Hence, although not an exact test of the degree of alkalinity of any one sample of urine, or of the amount of animal matter, (especially albumen) present, yet, by their early appearance and by the quantity developed, to a certain extent vibrios may be regarded as affording valuable information on both these heads.
5. That vibrios are most freely developed when the urine is exposed to the air.

But vibrios are not the only kind of animalculæ found in urine. A second species not unfrequently occurs in great abundance, entirely different in size, form, and structure; this is the *bodo urinarius*. The author gives a minute description of this animalcule, showing that it multiplies by *fissiparous* reproduction. This description is illustrated by some carefully executed drawings. Dr. Hassall's investigations have also led him to the discovery of a third kind of fungus developed in alkaline urine, entirely different from the two which had been described in a former communication. Like them, this recently dis-

covered fungus presented three distinct stages of growth—sporules, thallus, and aerial or perfect fructification. These are severally described. The author abstains from giving this fungus a distinctive name, wishing, before doing so, to ascertain whether it had heretofore been described by any other observer.

#### ART. 66.—*On Diabetes.* By Dr. von DURSCH, of Mannheim.

(*Henle u. Pfeuffer's Zeitsch.*, 1853; and *Edin. Med. Journal*, July, 1854.)

Probably one of the most elaborate papers ever written on this disease has just been published by the above author. It is founded upon two very interesting cases of diabetes, of which he has given very careful clinical reports, and also accounts of the pathological lesions found after death. With indefatigable perseverance and most praiseworthy zeal, he carefully ascertained, every day for several months, the nature and amount of the food and drink taken by his patients; the amount of fluid contained in the aliment; the quantity of urine excreted, its specific gravity, and the amount of sugar it contained; the number of the stools, the proportion of their watery constituents; the amount of water exhaled by the lungs and transpired by the skin, &c. The results of these most laborious and minute investigations he has condensed into two large synoptical tables, which are appended to the memoir. In one of these full particulars are given of the effects of different kinds of diet upon the total amount, specific gravity, and saccharine constituents of the urine. As far as our limited space permits, we shall now glance at the general results thus tabulated; *first*, when the patient was put upon a mixed diet for forty days; *secondly*, when a farinaceous diet alone was allowed during eight days; and *thirdly*, when animal food was given during a period of five days.

##### 1. *Effects of mixed diet on*

(a). *The specific gravity.*—The average density of the urine, while this regimen was adhered to, was 1037.8; it was higher in the mornings and evenings (1038) than during the day (1036).

(b). *The amount of the urine.*—The daily average was 5234 cubic centimetres. The quantity voided was greater in the morning (1971 c.c.) and evening (1831 c.c.) than during the day (1430).

(c). *The per centage of sugar.*—The average amount of saccharine matter was 9.134 in the 100 grammes. The per centage was lower in the morning and mid-day urine (8.9) than in that passed at night (9.4).

(d). *The total amount of sugar.*—The average daily mount of sugar excreted during the whole period was 477.7 grammes; the lowest was 350, and the highest 615 grammes.

##### 2. *Effects of farinaceous diet on*

(a). *The specific gravity.*—This continued nearly the same as with mixed diet; the average was 1037.6. With this regimen also it was lower during the day than at night or morning.

(b). *The amount of the urine.*—This was increased to 5604 cubic

centimetres as its daily average. It was greater in the morning (2165 c.c.) than during the day (1737 c.c.), or at night (1701).

(c). *The per centage of sugar.*—This continued nearly unchanged, being on average 9.39 in 100 grammes.

(d). *The total amount of sugar.*—In this a considerable increase was visible, while the farinaceous diet was continued. The average quantity of sugar daily excreted amounted to 526.4 grammes; and the urine in the morning contained more (201 gr.) than at noon (159 gr.), or at night (165 gr.).

### 3. *The effect of animal diet on*

(a). *The specific gravity.*—It remained nearly unaltered by this regimen, as happened with both the other diets. Its average was 1037.2; and it was lower in the morning (1036) than at other times (1037).

(b). *The amount of the urine.*—This was considerably diminished, the average quantity *per diem* being 4588 cubic centimetres. The average amount was much greater in the morning (1816 c.c.) than during the day (1324 c.c.) or at night (1448 c.c.).

(c). *The per centage of sugar.*—This was also lessened, being on an average 8.232 in 100 grammes.

(d). *The total amount of sugar.*—Here likewise a striking diminution was manifest. The average quantity daily excreted was 379.8 grammes; this was greatest in the morning (139 gr.), and less during the day (114 gr.) than at night (126 gr.).

Dr. von Dursch discusses several of the questions relative to diabetes, and brings to bear upon them the weight of his experience and careful observations. As regards the disputed point, whether the quantity of the urine voided in this disease surpasses the amount of the fluids absorbed, he thinks that the question has not been properly considered, and that we ought to compare the amount of water in the urine, &c., with that contained in the food and drink taken. During his investigations he ascertained the amount of the cutaneous transpiration and pulmonary exhalation by frequently weighing his patient; and he also carefully noted the quantity of water contained in the faeces. He has succeeded thereby in satisfying himself that the water given off by the patient equals exactly the amount of the water absorbed by him.

In conclusion, the author believes, from all his researches, that diabetes principally depends on the sugar normally existing in the blood being undestroyed and unappropriated; and he is of opinion that all kinds of food are capable of producing sugar.

ART. 67.—*On the diagnosis of Renal Calculus.*  
By Dr. BENCE JONES, Physician to St. George's Hospital.

(*Medical Times and Gazette*, May 24, 1854.)

These remarks upon the diagnosis of renal calculus occur in a recent Clinical Lecture by Dr. Jones. He says:

“The complaints which may be mistaken for a nephritic attack, are

lumbago and colic. I know of no certain means of distinguishing these diseases except the microscopic examination of the urine. The absence of vomiting in lumbago, and the seat of pain in colic, may lead you to a correct opinion; but the presence of blood-globules when the urine is examined with the microscope, is the sure indication that the attack is caused by the descent of a renal calculus, and the affection of the testicle may be generally found confirmatory of this opinion. Do not think that in every case in which blood is found by the microscope in the urine a calculus necessarily exists in the kidney. Blood-globules may appear in the urine from simple congestion of the kidney in many diseases,—from Bright's disease, from inflammation of the mucous membrane alone, from congestion or disease of the prostate, from scrofulous disease, or malignant disease; and, in some of these diseases, the difficulty of distinguishing between them and renal calculus is by no means easy.

“Be careful of expressing your opinion of the presence of a calculus in the kidney until you have the most decided evidence in the state of the urine. I have twice had supposed renal calculi sent to me for examination, which proved to be pebbles with which the patients intended to deceive their medical attendants, who, by asserting, that some day a calculus would pass, had induced their patients to try how easily imposition could be practised. Even when one true calculus passes, no opinion as to the perfect freedom of the patient from other calculi should be given until the urine has been found to remain perfectly free from blood-globules after strong exercise has been taken.”

ART. 68.—*The Diagnosis of Malignant and Scrofulous Disease of the Kidney.* By Dr. BENCE JONES, F.R.S., Physician to St. George's Hospital.

(*Medical Times and Gazette*, June 17, 1854.)

In the subjoined remarks, Dr. Jones deals very frankly and clearly with this difficult subject. He says—

In arriving at the diagnosis of any case, the process usually consists in forming, with more or less care, a conjecture, and then determining by examination, whether that conjecture be true. In urinary disease, the conjecture first disposed of usually is, whether Bright's disease is present; then whether any concretion has formed in the passages; then the supposition usually is, whether simple inflammatory action be present; and finally, we generally ask the question whether the symptoms agree with those produced by malignant or scrofulous disease. Though both these diseases are of rare occurrence, yet they are often the cause of doubt and difficulty, being sometimes mistaken for some other disease, and being at other times thought to be present when really they do not exist. Neither of these diseases admits of satisfactory curative treatment, though in scrofulous disease the benefit sometimes obtained from medicine is so great, that even the medical man may, for a time, at least, be deluded by the hope of a perfect recovery. Hence I shall be able to speak of palliative treatment only;

and the little I have to say would not justify me in choosing these diseases as the subject of a lecture, were it not, that in regard to diagnosis and prognosis, the utmost knowledge of both these diseases is most essential. For example, a patient has blood, pus, and albumen in the urine, with pain on making water, and irritable bladder. Do these symptoms arise from fatal scrofulous disease, or may he recover perfectly by passing a small calculus? Often the question has to be asked, is there simple chronic inflammation, or is malignant disease the cause of the inflammation. What then, can be done, to distinguish between scrofulous and malignant diseases, and between these and calculus, or Bright's disease? When each of these different diseases is fully marked by its own most peculiar symptoms, no difficulty is met with in the diagnosis. When a patient comes with markedly phthisical aspect, with tubercles and vomicæ detectable in the lungs, occasionally passing blood, and always pus, with sometimes shreds or granules of matter in the urine, it would not be easy to overlook the scrofulous disease of the kidney; or if another comes with malignant disease elsewhere, and urinary symptoms, with blood constantly in the urine, no more doubt would exist about malignant disease being present than about Bright's disease existing when highly albuminous urine of low specific gravity, containing fibrinous casts, is passed, while the patient has general anasarca. Nor, if a few blood-globules only were found in the urine after exercise, while uric acid or oxalate of lime crystals were constantly present, and no other morbid appearance existed, would there be any great difficulty in the diagnosis of renal calculus. But the difficulties of diagnosis are not to be met with in model cases. Exemplary cases are scarcely more common than exceptional cases, in which either some of the usual appearances and symptoms are wanting, or other symptoms are present which do not agree with those that are generally observed."

And again:

"As far as I have hitherto observed, the microscope has not enabled me certainly to predict the presence of malignant disease of the kidney. I must say the same of incipient malignant disease of the bladder. The symptoms of this disease are more distressing than when the kidney is affected; but even when I have felt confident of my diagnosis, I have sometimes been unable to confirm it by the microscopic discovery of malignant cells, in consequence of the highly alkaline urine acting on the cells. In other cases, in which small masses of malignant matter were passed, the microscope has confirmed the diagnosis which the general symptoms had made most probable. Nor has the microscope, as yet, enabled me to speak certainly regarding the commencement of scrofulous disease. The means of distinguishing between scrofulous disease and calculus of the bladder or kidneys, are very insufficient; but by careful attention to the progress of the symptoms, more certainty may be attained than by help of the microscope."

ART. 69.—*The occurrence of Sugar in the Urine in a case of Acute Bronchitis.* By Dr. GARROD, Physician to University College Hospital.

(*Pathological Transactions*, vol. v. 1854.)

In order to investigate the pathology of that most obscure disease, diabetes, it is necessary to examine carefully the various circumstances which lead to the production of sugar in the urine. Many different theories have been advanced. 1st. That it depends on some altered condition of the stomach (Bouchardat's theory), in which a species of ferment, or *diastase* is generated, leading to the conversion of all amylaceous matters of the food into glucose or diabetic sugar. It appears probable, however, that this conversion is a normal change in the animal body. 2d. That it depends on the excessive and abnormal production of sugar in the liver (Bernard's theory). 3d. That sugar appears in the urine from deficient action of the respiratory function, whereby the sugar, normally formed from starch or amylaceous matters, is incapable of being further changed and broken up into carbonic acid, water, &c.

“A few days since I was called to see a patient, a female, about 50 years of age, who had been suffering for ten previous days with acute bronchitis, and who had become much worse within twelve hours of my visit. I found the following condition:—skin of body moderately warm and moist; extremities rather cold, also tip of the nose; countenance dusky, and lips livid; tongue congested and dark red, rather furred; cough frequent, less than it had been; expectoration copious and purulent, not tinged; pulse 120, very weak and intermittent (it had been intermittent for about twelve hours); respiration 40. No abnormal dulness on percussion over the chest; but over the whole extent, breath sound, accompanied with sonorous, sibilant, coarse and fine mucous rhonchi.

“The patient had passed a small quantity of urine about 7 or 8, a.m., six hours before my visit, which was much clouded from the deposition of pink urates; and on ascertaining that she had taken, during the night, some arrow-root, it occurred to me that this case would be a good one to test the accuracy of the theory which has been propounded, *viz.*, that ‘sugar in the urine is dependent on the imperfect performance of the function of respiration.’

“*Examination of Urine.*—Abundant urate deposit of pink colour, cleared by temperature of 100° Fahr.; when heated above 200° Fahr. again became cloudy from precipitation of albumen not redissolved by nitric acid; precipitate occupied about one-third of the height of fluid in the tube. Sp. gr. 1021, at 60° Fahr., and full acid reaction.

“As much albumen and urates were present, it was useless to depend either on Moor's test with potash, or on the copper tests, without previously removing most of such matters. I therefore added to the urine a solution of the tris-acetate of lead in slight excess, and, after filtration, treated the clear fluid with powdered bicarbonate of soda, and refiltered. The resulting solution was clear and colourless, and was thus tested:—

"A portion boiled for a minute or so with strong solution of hydrate of potash, gave an orange-yellow coloured fluid, equal to that produced by one grain of glucose or diabetic sugar in an ounce of water, when heated in the same manner.

"A second portion was treated with Poggiale's solution of tartrate of copper dissolved in excess of potash; discolouration of the fluid, and a very distinct precipitate of red oxide of copper, took place on boiling for a few seconds; the precipitate was soluble in ammonia.

"Trommer's test was applied with equal success, and Poggiale's solution re-applied several times with invariably the same result.

"Another portion,  $\frac{3}{105}$ th cubic inch, was put into a tube with a piece of the German yeast, and after allowing for the height of mercury in the tube, and temperature, it was found to yield  $\frac{8}{100}$ th cubic inch of carbonic acid gas.

"A portion of the urine, before the addition of lead, was twice treated with yeast, and gave very distinct evidence of the presence of sugar, whereas another urine treated at the same time with the same amount of yeast gave no such indication.

"On concentrating the clear decolorized solution to about one fifth of its volume, and then endeavouring to ferment, I found no indication. The same occurred when treating the urine itself in the like manner; and, I may add, for I consider it a point of some importance, that, on adding sugar to urine and afterwards reducing its bulk, the fermentation was equally prevented, the presence of salts in large quantities having the power of arresting the process. I find that by some concentration has been recommended, and therefore I mention this fact."

#### (F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 70.—*The advantages of the ethereal solution of Nitrate of Silver in Erysipelas, &c.* By Mr. WARD, Assistant-Surgeon to the London Hospital.

(*Medical Times and Gazette*, Oct. 14, 1854.)

The writer of some short notices of Hospital Therapeutics, in the 'Medical Times and Gazette,' writes thus of these advantages:

Every one who has tried it is aware that the application of a watery solution of the nitrate of silver over a large extent of skin is a troublesome and patience-requiring process. The fluid does not dry quickly, and it runs about, being prevented, by the greasiness of the skin, from being rapidly absorbed. A plan which we see adopted by Mr. Ward, in the London Hospital, obviates very completely these difficulties. It consists in making the solution with the common nitric ether, instead of water. The ether acts as a solvent of any sebaceous matter which may be on the skin, and, from its volatility, very quickly dries in, producing, at the same time, a sensation of coolness very agreeable to the patient. If wished, several coatings may be applied successively to the same part with loss of but little time. The strength which Mr. Ward generally employs is eight grains to the ounce, but it may, of course,

be modified according to the wishes of the surgeon. The use of nitrate of silver externally in erysipelas and other low forms of inflammation of the skin, is a very favorite practice in most of the London hospitals,—either an aqueous solution, or the solid stick moistened being usually employed. Mr. Ward informed us, that the use of the etherial menstruum was not original, but had been suggested to him by a gentleman by whom he had been consulted.

**ART. 71.—Arseniate of Iron in herpetic and squamous Eruptions.**

By M. DUCHESNE DUPARC.

(*Gaz. des Hopitaux* ; and *Medical Times and Gazette*, Sept. 2, 1854.)

M. Duchesne Duparc has read a memoir on this subject before the Academy, at the conclusion of which he advances the following propositions as the result of his researches :

1. Arseniate of iron possesses, in common with all other arsenical preparations, unquestionable remedial properties, applicable to the treatment and cure of herpetic and squamous affections of the skin.

2. The great advantage of that substance is, that it may be administered in sufficient doses without giving rise to any of the consequences with which various other arsenical preparations have been justly reproached.

3. The arseniate of iron, whether given singly or in combination with other substances, ought always to be administered in graduated doses, commencing from  $\frac{1}{20}$ th,  $\frac{1}{10}$ th, or even  $\frac{1}{5}$ th of a grain, according to the age, the constitution, and, above all, the state of the digestive organs of the patient.

4. Numerous facts, accurately observed, authorise M. Duparc in concluding, that a daily dose of  $\frac{1}{5}$ th of a grain of arseniate of iron, uninterruptedly repeated during the necessary time is competent in the adult to effect the cure of an herpetic or squamous affection, however extensive or long-established.

5. No absolute rule can be laid down with respect to the duration of the anti-herpetic treatment by arseniate of iron, for this must vary in accordance with the differences of age and constitution, the extent and severity of the disease, and, more than all, perhaps, in proportion to the degree of toleration which the digestive organs manifest for the remedy.

6. An anti-herpetic treatment by arseniate of iron in no degree excludes the employment of topical remedies of acknowledged utility, and it is materially assisted by the internal or external use of certain non-sulphuretted mineral waters. MM. Serres, Andral, and Rayer have been commissioned to inquire into the merits of this new remedy.

**ART. 72.—On the treatment of Favus.** By Mr. STARTIN.

(*Medical Times and Gazette*, June 10, 1854.)

Speaking on this subject, the writer of the Report of “the London Practice of Medicine and Surgery,” in the ‘*Medical Times and Gazette*,’ says :

From the observation of about a dozen cases of severe favus (diagnosis by the microscope in all) recently treated by Mr. Startin, at the Hospital for Skin Diseases, we can speak with great confidence of the efficiency of the following ointment. It is the Ung. Sulph. Comp. of the Pharmacopœia of that Institution.

Rx Sulph. sublimati, ℥ss ;  
 Hydrarg. Ammonio-Chlorid., ʒss ;  
 Hydr. Sulphureti cum Sulph. ʒss ;  
 Leviga simul, dein adde Olivæ Olei, ʒiv ;  
 Adipis Recentis, ʒxvj ;  
 Creosoti, ℥xx. M.

To correct the state of general health, Mr. Startin commonly orders simultaneously a mild course of the iodide of potassium, but this, we suspect, has but a small share, if any, in the local result. Often when the scalp has been for many years thickly covered with the peculiar favus crust, four or five nightly applications of the above ointment have sufficed to make it perfectly clean. So long as the patient will continue regularly to use a small quantity every day, the disease may be prevented from reappearing, and the condition assumed by the scalp under its influence might easily be mistaken by the inexperienced for one of complete cure. As soon, however, as the inunction is suspended, the eruption reappears. This liability we have known, in more than one case, to extend over nearly a year, and probably it may for much longer periods. The ointment, however, which does not smell much, need only be applied at night, and may be washed entirely away every morning, so as to entail but little inconvenience on the patient. The hair will, to a considerable extent, grow during the treatment, provided that the scalp have not been too much destroyed. In a most disgusting disease, for which as yet no real cure is known, it is much to be in possession of an almost certain means of ensuring its absence. The ointment no doubt acts as a parasiticide. Before its first application it is desirable to clear away the crust as much as possible, either by fomentation or a poultice.

We may remark, that the ointment mentioned is used by Mr. Startin in the treatment of scabies, and also in that of the contagious form of porrigo.

**ART. 73.—*The larva of the Cœstrus Bovis in the Human Subject.***  
 By Dr. J. MATTHEWS DUNCAN.

(*Edinburgh Monthly Journal*, July, 1854.)

At the meeting of the Medico-Chirurgical Society of Edinburgh, held on the 3d of last May, Dr. Duncan exhibited a specimen of this larva, which he had extracted from the skin of a girl, aged twelve years, who had lately come from the country, where she had been employed in herding cattle. There was a small tumour, like a boil, with a small opening on its apex. There was, however, no redness or appearance of inflammation. On attentive examination, Dr. Duncan saw something moving in the interior, and without difficulty ex-

tracted the larva alive; a little fluid containing blood and purulent matter escaping at the same time. The animal consisted of eleven segments, and presented all the characters of the larva of the *œstrus bovis*. On inquiry, Dr. Duncan found that it was the third which the girl had observed on her person. It appeared that she distinctly remembered having been severely stung while engaged attending on the cattle in the summer. About the end of February, she felt a swelling on the spot of the sting, which moved about, ultimately becoming fixed. The second one appeared on the back of the neck; and, in the present instance, the worm was first perceived over the spine, at the dorsal vertebræ; it then progressed into the neck, disappeared, and was again felt on the right side of the neck, whence it was extracted. It was well known that the ova of *œstrus bovis* are deposited in the autumn on the backs of the black cattle; they remain there during the whole winter; increase in size in early spring; form a nidus, and live on pus—the result of the irritation of their presence; they get very large, and fall out, and, after creeping a short distance, become torpid, and assume the chrysalis form, and in the course of the autumn, that of the full fly. (*Vide* the researches of Bracy Clark, Reaumur, etc., etc.) No human bot has been described; indeed, its existence is highly problematical, as it would be easily discovered and described, and in a single season entirely extirpated. In Europe, none of the *œstridæ* infest man. In Surinam and the West Indies, a few cases are on record of their occurrence. Humboldt, in his travels, makes an indistinct allusion to a parasite of this kind, which infested the bellies of the Patagonians.

## PART II.—SURGERY.

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### SECT. I.—GENERAL QUESTIONS IN SURGERY.

#### (A) CONCERNING TUMOURS.

ART. 74.—*Appearances of Retrogression in Cancer.*  
By Dr. T. MARKOE.

(*New York Journal of Medicine*, July, 1854.)

At a late meeting of the New York Pathological Society, Dr. Markoe exhibited specimens of cancer,\* taken from a woman who had been under his care some two years, and gave the following history of her case:—She died at the age of 51. In one of her breasts there appeared, some years ago, a slight discoloured spot, which soon assumed the form of a tumour, and at length grew to occupy the whole centre and substance of the breast. Soon after the tumour had progressed thus far in the first breast, a similar tumour made its appearance in the other breast, and progressed in the same insidious manner, without inflammation or redness, and, at first, without much pain. As the breasts grew to a considerable size, they became hard, and she suffered a great deal of pain. This period lasted about four years, during which the progress was very slow and gradual. About this time she came to this country from England. For a year or more after her arrival, no apparent change took place, except that both breasts had become nearly of a size; they were as large as the two fists, hard, and insensible. She made use of some quack remedies, which had the effect, after a year or two, of reducing the volume of the breasts; they also became less painful, and the skin was shrivelled and horny, so that the nipple began to look like a warty excrescence. There seemed to be a flat indurated substance under the nipple, with hard lines passing from it. At this period she came under Dr. Markoe's care, not on account of her breasts, for she supposed they were in a fair way of being cured, but for some vague affection in the hypochondriac and epigastric regions. Upon investigating these symptoms, he was led to suspect a transfer of the disease of the breast to some of the internal organs. Flatulence was a symptom throughout the progress of the disease. After a time, the abdomen became somewhat distended with fluid, which increased until the case became a fair one of abdominal dropsy. He put her upon a mild mercurial course, which unexpectedly produced severe ptyalism. For a time after this, she was again so much more comfortable that he ceased to attend her. Finally, she again sent for him, and he found

\* The diagnosis was not confirmed by the microscope.

that the dropsy had reached a point which threatened suffocation. He proposed tapping, but she refused until suffocation became imminent, when she yielded, and he drew off twenty-one quarts. Symptoms threatening peritonitis supervened, but soon subsided, and she rapidly recovered. The tapping was repeated at intervals of five to seven weeks while she lived; the quantity of fluid removed increasing at each repetition of the operation, from 21 quarts at the first, to 35 quarts at the eighth. After each tapping, she would get up and resume her business, and continue thus until the distension of the abdomen became so great as to compel her to seek relief in the operation. Previously to the last operation, she was attacked with vomiting, or rather rejection of her food. She died exhausted by the long continuance of the disease, the rejection of food, and excessive pain.

On post-mortem examination, three or four quarts of clear, transparent serum were found in the abdomen. The viscera presented a beautiful appearance; the intestines stood out in relief, as if injected with plaster; the surface was studded with tuberculous-looking masses, closely packed together, varying in size from a pin's head to a pea; and scattered here and there were little transparent vesicles, containing fluid. Around these little masses there was a peculiar vascularity, and the whole surface of the small intestines were more or less agglutinated by old false membrane. The principal seat of this deposit was in the small intestines, but the spleen was covered entirely with something of the same nature. A portion of the liver was attached to the ascending colon; the parietal peritoneum, though not injected in the same way, presented the same tubercular appearance. He supposed he had found, in the evidences of chronic inflammation, the cause of the dropsy; but further examination revealed the portal vein compressed by the deposit of new matter in that portion of the mesentery which enclosed it, this deposit extending along the vein to the liver. The vein itself was healthy. This condition of the vein was probably the principal cause of the dropsical symptoms.

At the lower part of the abdomen, he found a condition of things which he had not before seen. The whole of the intestines appeared as if their cavity was injected; they could be felt, through the abdominal wall, after each tapping, like coils of rope. The explanation of it was here seen; the coats of the intestines were infiltrated with this matter, so that they were thickened and swelled out like a solid cord. It was not easy to recognise a canal in the upper part of the rectum, but the lower portion was more natural. The same deposit covered the uterus and ovaries; a fallopian tube had been caught in one of the serous cysts upon the ovary, and was stretched out as a broad band over it. The new deposit, whatever it was, seemed to be confined to the peritoneum and portal vein.

The breast was in the same condition as when she first came under observation, two years before.

On section, the knife passed through a dense yellowish white substance, having the appearance of partially dried fibrous tissue, and spread out in a layer of about one third of an inch thick under the

nipple, to which the nipple was attached. No trace of the normal structure of the gland was apparent. The shoulders and back were covered with tubercles under the skin; the muscle and bone seemed to be perfectly healthy.

The most important feature in this case was the fact of an apparent absorption or retrogression of a cancerous tumour. The history of the breasts would establish pretty clearly that it was a case of cancer; and if we could determine that the abdominal deposit was cancerous, it seemed to be a pretty clear case of partial disappearance and atrophy of a cancerous tumour, with reproduction in another part. One symptom which seemed to him as most certainly indicating the character of the disease, was the hard tubercles all over the shoulders and back, which by their prominence made the surface irregular. He was not, however, fully satisfied of the cancerous nature of the deposit, but its general appearance led him strongly to suspect it. The only other deposit would be tubercular, but in this case there would have been false membrane effused, which did not exist in any considerable degree. Every part was examined except the brain; in one part of the lungs there was a very little of this tuberculous-looking matter. As this was a point of much importance, he had made a careful examination. The heart presented one very small tubercle, as large as half a pea, just above the place where the coronary artery curves around the base of the auricle. He could not ascertain that there was any hereditary predisposition.\*

**ART. 75.—*Suppression of Cancer in the Breast by the use of cold, followed by the development of the disease in other Organs.*** By Mr. SIMON, F.R.S., Surgeon to St. Thomas's Hospital.

(*Pathological Transactions*, vol. v, 1854.)

This case has an important practical bearing.

**CASE.**—A. D., calling herself 36 years of age, but probably, in fact, ten years older, came under Mr. Simon's care, at St. Thomas's Hospital, in the autumn of 1852, having, in her left breast, a hard tumour (diagnosed as scirrhus) which, in the preceding seventeen months, had grown from the size of a hazel-nut to that of an orange.

On careful examination of the axilla some glandular enlargement could be discovered there. The patient was, generally speaking, in bad health, suffering from gastrodynia and considerable chronic bronchitis, and having had (it was said) haemoptysis occasionally to some extent. Mr. Simon dissuaded her from having the breast removed.

When the case was first seen, there was some inflammatory excitement about the tumour; temporary advantage was obtained by leeches and pressure, but, in the course of October and November, the complaint was advancing, with almost constant and severe pain.

Mr. Simon, finding himself unable to diminish this symptom by the local use of opium and belladonna, ordered, at the beginning of December, that a

\* This case derives additional interest when read in connexion with the cases reported by Dr. Ashwell, and reported in our last volume, p. 210, in which cases uterine tumours disappeared spontaneously.

bladder of pounded ice should be applied to the breast, once a day. It was to be kept there, in the first instance, for about half an hour, but the length of each application was increased from day to day, till the congelation was continued for two hours and more at a time.

From the moment of its first use, the patient expressed great relief, and, within a fortnight, declared that her tumour was going. This proved to be the case. The decrease advanced with striking rapidity, and, in thirty-four days from the beginning of the treatment, A. D., at her own desire, and believing herself cured, ceased to be an in-patient of the hospital.

At this time (Jan. 8th, 1853,) the tumour had so far gone, that there was no visible fulness of the breast, nor any rounded tumour in it; but merely some flat fibrous-feeling induration, over which the skin was adherent. No pain whatever was experienced either in the breast, axilla, or arm; and the patient had gained apparently as much in general condition as in regard of the local disease.

In this state she remained under notice for a month or two, occasionally visiting the hospital, and was then lost sight of.

About the middle of October she again appeared at the hospital, seeking re-admission, on account of sufferings occasioned by internal disease.

The breast was still free from any active growth: but, here and there, round about it, small tubercles of cancer existed in the skin. The patient's main ailment was referred to a large hard tumour at the epigastrium. She had frequent vomiting (sometimes of blood) and incessant pain. She was already much reduced in health; and this decline continuing, with increased urgency of her gastric distress; she died on the 1st of December, six weeks after her re-admission to the hospital.

The breast, which was not of large size, was indurated and scirrhouss, and its integuments presented small cancerous tubercles. The glands in the adjacent axilla, and some of those above the clavicle were enlarged and cancerous.

On the surface of both lungs were, scattered in large numbers, patches of malignant growth, which appeared to be exclusively confined to the serous and subserous tissues. The lungs themselves were free from such disease, but their apices contained a few small chalky concretions. The parietal pericardium was similarly affected to the visceral pleura, but that enveloping the heart was healthy.

The surface of the peritoneum, especially where it covered the liver, stomach, intestines, and mesentery, was thickly studded with cancerous patches. The liver was much enlarged, very irregular in form, and consisted, in great measure, of masses of rather firm encephaloid cancer, between which a small quantity of tolerably healthy liver-structure still remained.

The uterus presented several fibrous tumours, of which two were as large as moderate-sized oranges, and were internally in a softened and partially disintegrated condition. All other organs were healthy. The breast-cancer presented no microscopic peculiarity, further than that the fibrous element was even more in excess than is usually the case. The malignant deposit in the organs differed in no important respect from that in other cases of the kind. The softened state of the uterine tumours, associated as it was with some accidental alterations of colour, at first suggested the idea that they were also the seat of malignant disease; such, however, was not the fact, for no abnormal cell-formation was detected in them, and the ruptured parts, equally with the firm, consisted of undeveloped muscular fibres, the only difference being, that in the former they were much more loosely arranged than in the latter.

ART. 76.—*On a Cutaneous Tumour called “Pachydermatocele.”* By Dr. VALENTINE MOTT, Professor of Surgery in the University of New York.

(*Transactions of the Medico-Chirurgical Society*, vol. xxxvii, 1854.)

The dermoid tissue is liable to a greater variety of diseases than any other tissue in the body; and among the rarer forms of morbid changes, that which forms the subject of the present paper seems the most remarkable. The author believes that strong mental impressions on the mother's part may leave physical traces upon the infant's body, and he is inclined, at least in one case, to refer the disease now under consideration to some such cause. His description is drawn from five cases, in all of which the disease had commenced in a small congenital brown mole or spot, and had increased with the years of the individual, until, as in three of the cases, the morbidly-changed parts presented hideous and disgusting deformities. They have all been more brown than the surrounding integuments, flabby, and very like a relaxed and very emaciated mamma. In several of the cases there were two and three layers, or storeys, resembling, in one upon the neck, the fanciful and successive turns of a tippet, or the folds of a rich maroon velvet curtain. There is no great amount of vascularity, nor does the growth shrink much when separated from the living parts. The subdermoid areolar tissue seems to be hypertrophied, but there is very little appearance of blood vessels upon the cut surface. The tumour may return, hence careful pressure is requisite during the granulating stage of the wound after extirpation. The sense of feeling is mostly numbed; in only one case there was ulceration, but the secretion of an acrid discharge rendered constant ablution, with subsequent powdering, absolutely necessary. An account of the microscopical examination of the morbid tissues is furnished by Dr. Sweet, and the cases are illustrated by four large coloured drawings. The author extirpated the morbid parts when practicable.

(B) CONCERNING WOUNDS AND ULCERS.

ART. 77.—*On “Elkoplasty.”* By Dr. HAMILTON, Professor of Surgery in the University of Buffalo.

(*New York Journal of Medicine*, Sept., 1854.)

Dr. Hamilton proposes to treat ulcers in which the destruction of skin is too great to allow of healing, by grafting into them a piece of skin from the opposite limb, or from the limb of another person; and he illustrates this proposal by a case which must speak for itself, as to the merits or demerits of the operation. The idea first occurred to Dr. Hamilton in 1846, but it was not then carried into effect. The term “elkoplasty” is derived from  $\epsilon\lambda\kappa\sigma$ , ulcer, and  $\pi\lambda\alpha\sigma\tau\omega$ .

*Case.*—This case was read before, and the patient exhibited to, the Buffalo City Medical Association. Dr. Hamilton writes:

Horace Driscoll, aet. 30 years; Irish labourer; had the skin and flesh extensively torn from the right leg by a dirt car, on the 3d of November, 1852. He has been in the hospital most of the time since then until now. The

wound has nearly healed several times, but never entirely; after exercise the whole would give way, and the ulcer again extend itself completely around the leg.

Jan. 21, 1854, I made the following operation:

The patient was laid upon his belly, upon the operating table before the class. A flap of skin measuring seven inches by four was then raised carefully from the calf of the opposite leg, extending in depth through the cutaneous and cellulo-adipose textures, until the fascia was in sight. Its remaining attachment to the body was by a broad and thick base. The haemorrhage was slight; no vessels were tied. Lint, spread on both surfaces with simple cerate, was laid between the flap and the surface from which it had been detached, other pledgets of lint similarly covered were placed on the outer surface, while over all and around the entire limb was wrapt a large mass of cotton batting, secured in place by a lightly turned roller.

He was then laid in bed and perfect quietude enjoined.

Jan. 22d.—During the night the wound has bled until the patient looks pale from the loss. The bleeding has now ceased.

Feb. 4th.—Two weeks since the flap was raised. The patient has had to be sustained with beer, his appetite having failed very much since the operation. The flap has been dressed in the same manner as at first, nearly every day. It looks healthy. No part of it has sloughed.

To-day the operation was recommenced before the class, by dissecting out the granulations and part of the cicatrix from the diseased leg, and thus forming a deep bed of the size and shape of the flap as it now appeared, both contracted and thickened. The flap was then made raw again on its margins, and its lower surface was shaved off, with the double purpose of removing the granulations, and of diminishing its excessive thickness. When the bleeding had ceased, the left leg was carried across the right, so that the tendo-Achilles and heel of the left leg rested upon the instep and ankle of the right—a thick cotton pad being interposed to prevent painful pressure. The flap was now brought snugly into its new bed, on the right leg, and well secured with interrupted sutures, a moderate compress, and roller. The two limbs were further secured immovably to each other by bands, and protected at various points by well made compresses, and the wounds carefully covered with lint spread with cerate.

Feb. 5th.—The wound has bled again, as after the first operation, although ice was applied diligently from the moment the dressings were completed. Much pressure was regarded as inadmissible. Bleeding ceased when he became faint, about three hours after the operation.

Feb. 18.—Two weeks since the last operation, and four weeks from the first. Patient has required to be sustained constantly with beer and nourishing diet. His appetite still remains bad. Bowels have not been moved in two weeks. He has not suffered much pain, only fatigue. To-day the base was separated from the left leg, the flap having united through most of its edges and under surface, to the opposite leg. No bleeding of consequence followed. The parts were thoroughly washed and dressed with ung. basil., and a snug roller applied. Ordered sulph. mag.  $\frac{3}{j}$ .

Feb. 19th.—No movement of bowels. Repeat sulph. mag.

Feb. 20th.—One corner of the extreme end of the flap is beginning to slough.

Feb. 21st.—Bowels have moved. Sloughing of flap continues. Ordered yeast poultice.

Feb. 25th.—Line of demarcation formed, insulating about one inch and a half of the flap, at the corner where the sloughing commenced.

Beyond this the sloughing never extended. The surfaces continued to close, and about one hundred days after the flap was laid down the healing was finally consummated, and now, after a lapse of nearly three months, during which he has been acting as a subordinate dresser at the hospital, the ulcer has not re-opened or shown any tendency to do so.

The wound made by the removal of skin from the left leg was completely healed over in about the same length of time as the ulcer on the right, and the whole left limb is now as sound and as perfect as before the operation.

Driscoll is, however, at present, by no means a sound man. His health has suffered considerably from his long illness, and from his prolonged confinement in bed, which dates from the time of the accident, through most of the period up to the time of the closing of the wounds since the operation. The cicatrix around the new skin is tender, and especially at one point where several pieces of bone exfoliated soon after the accident, and precisely over which, unfortunately, the sloughing of the flap took place. The ankle is also somewhat stiffened by the contraction of the skin, and of the gastrocnemii and tendo-Achilles, which latter were seriously involved in the original injury. These, however, are conditions which the operation did not propose to remedy, at least only in a small degree, or they are temporary accidents, and will certainly yield to time and careful use. If they were to continue, however, it will not be denied that, in the permanent sealing up of a sore, which, but for this operation, must probably have remained open during life, he is amply repaid for all that he has suffered at my hands. I venture to predict that, within one year from this time, he will be able to labour nearly or quite as well as before the accident.

On the 12th of March, five weeks after the flap had been transplanted, it had united by adhesion to the adjacent skin, through about one half of its circumference. The other half was surrounded by a border of granulations and of new skin, varying in breadth from one to ten or fifteen lines; but only at a few points was the bridge of new skin complete. It was especially noticed that nearly all, probably nine-tenths, of this new skin had sprung from the margins of the flap, and only the remaining fraction from the adjacent cicatrix; demonstrating that after transplantation and complete separation from the parent limb, its vitality was unimpaired, and that its re-productive power, if I may so speak, was vastly superior to the re-productive power of the old cicatrix.

You may notice to-day, also, that since the cicatrization was completed, the cicatrix formed by growth from the flap, has contracted; and, that, in consequence of this contraction, the flap has become expanded, or been stretched outward, and its surface has become flattened and firm, whereas, it was, at first, and for a long time, elevated above the surrounding skin, and flabby.

**ART. 78.—*On "Water-Strapping" in place of ordinary sticking-plaster.***  
By Mr. HOLTHOUSE, Assistant-Surgeon to the Westminster Hospital.

(*Transactions of Med.-Chir. Society*, vol. xxxvii, 1854.)

The object of Mr. Holthouse, in this paper, is to direct the attention of the profession to the superiority of wet-strapping over ordinary diachylon plaster in the treatment of ulcers and certain cutaneous affections of the extremities, as advocated by Mr. Chapman, and to recommend its adoption in injuries and diseases of the joints, and in

dressing stumps after amputation. The advantages of this application over plaster are :—

1st.—Its innocuousness, being entirely free from the irritating effects of the plaster, and never producing inflammation of the skin, or the eruption of pustules or vesicles.

2dly.—The comfort the patient experiences from its application.

3dly.—Its cleanliness.

4thly.—The ease and quickness with which it is removed, from its not adhering to the hairs of the part.

5thly.—Its cheapness.

6thly.—It may be made the vehicle for the application of the remedies.

The material made use of, may consist of linen or calico, bleached or unbleached, and the older it is, provided it be not rotten, the better it answers the purpose. It must be cut or torn into strips of varying length and breadth according to the part to which it has to be applied; the strips must then be immersed in water till thoroughly saturated, when they are fit for use. If the disease to be treated be an ulcer on the leg, the strips should be about two inches in breadth, and of a length exceeding somewhat the circumference of the limb; they should then be applied exactly in the same manner as plaster, each piece overlapping a portion of the one immediately below it; in fact, the directions given by Mr. Baynton for strapping up the limb may be strictly followed in the application of the water-strapping, save and except that his directions to remove the hair from the part may be dispensed with; a roller must afterwards be applied in the ordinary manner.

Four cases in illustration of this method of treatment, and of its beneficial results, are given; one being an ulcer of the leg of fourteen years' standing, that had resisted repeated attempts to heal it at other hospitals; another, a case of eczema impetiginodes, affecting both lower extremities, and of three years' and a half duration; a third was a case of a crushed thumb, followed by gangrene and subsequent amputation; and the fourth was an amputation of the thigh, for extensive disease of the knee-joint and upper third of the leg.

#### (c.) CONCERNING DISEASES OF THE BLOOD-VESSELS.

ART. 79.—*A case of Varicose Aneurism cured by injection of Per-chloride of Iron.* By M. JOBERT.

(*Comptes rendus*, June, 1854.)

Two injections were practised in this case. The first produced no decided result; the second gave rise to serious local, and constitutional symptoms. These symptoms subsided, and the aneurism was cured, but M. Jobert was so convinced of the risks which had been run that he thinks this practice ought not be adopted, where there are any signs of inflammation or degeneration in the sac.

CASE.—L. Loel, æt. 18, was admitted into the Jewish Hospital on Feb. 20th, for a varicose aneurism at the bend of the right elbow, which aneurism had

resulted from a bleeding which had been practised in the same institution for an attack of acute bronchitis about a month previously. On the same day, M. Jobert injected five drops of the iron solution, after having compressed the brachial artery, and with little result of any kind. Four days later, M. Jobert repeated the operation, injecting six drops of the solution on this occasion. The immediate consequences were, severe pain in the sac, and in the direction of the radial and ulnar arteries, and contraction of the muscles of the forearm. These symptoms were soon followed by high fever. Three days afterwards these symptoms had subsided in a great measure. There were still muscular twitchings in the fore-arm, but the tumour might be pressed without pain. The tumour, also, was solid and hard, without pulsation or murmur, and the coagulum could be felt extending, to some extent, into the brachial artery. Two months later, the state of the elbow had undergone no alteration, and the muscles of the forearm were still weak, and subject to twitchings; and such is the present state of the patient.

ART. 80.—*On Perchloride of Iron injections in the treatment of Aneurism.* By M. GIRALDES.

(*Gaz. des Hôpitaux*; and *Medical Times and Gaz.*, July 1, 1854.)

M. Giraldes has published, in an interesting memoir, an account of thirty-five experiments by the injection of the perchloride of iron into the arteries of animals. These experiments were commenced in the month of April, 1853, and continued to the month of March, 1854. They prove that a few drops of the perchloride of iron, of variable density, injected into the carotid artery of a horse, coagulate the blood contained in a portion of the vessel somewhat less than an inch in length. Thus, two drops at 49° areometer of Beaumé, three drops at 30°, and six drops at 15° produce this coagulation. The changes produced upon the blood and upon the walls of the vessel by the coagulating agent vary, *cæteris paribus*, according to the density of the perchloride. Five drops at 49° mummify (*momifiant*) completely the blood contained in the artery. The same quantity of the perchloride at 15° to 20° produces a sort of clot formed by blood combined with the salt of iron and by normal fibrine. But the action of the coagulating liquid is not completely exhausted upon the blood; it extends to the coats of the artery. In the first case, these membranes become disorganized; they present a yellowish-brown discoloration; become thinned, horny, and in fact mortified. In the second case, the membranes of the artery are modified by the action of the chemical agent, but this modification is much less intense, and does not amount to disorganization. The epithelium and the internal coat are destroyed; the middle coat, having lost its contractile properties, yields to the impulse of the liquid, and dilates; its circular fibres are easily seen upon the inner surface of the vessel. This condition is accompanied by yellowish discoloration of the fibres of the middle coat, and by their adherence to the clot. It may be asserted, that the injection of the perchloride of iron into an artery is always followed by these modifications:

1st. The formation of a clot.

2d. Modifications in the organization of the arterial tunics.

The clot offers different characters, according as produced by an injection of the perchloride at  $45^{\circ}$ ,  $49^{\circ}$ , or  $30^{\circ}$ . In the first case, it is compact, homogeneous, and formed in totality of altered blood; in the second, it is formed by a mixture of blood, altered by the salt of iron enveloped in a large quantity of normal fibrine. These primary clots are followed by the formation of two others, one on the side of the heart, the other towards the periphery.

The coats of the artery present very important modifications in their organization; whenever the experiment is made with perchloride at  $40^{\circ}$ , they become disorganized; they are reduced to the state of foreign bodies, and require to be cast off. But if the experiment is made with perchloride of  $15^{\circ}$  to  $30^{\circ}$ , the changes are of quite another character. The middle coat becomes hypertrophied, contracts adhesions with the clot, which it tends to encyst in the cavity of the vessel. The external coat is infiltrated by a fibrinous matter, plastic lymph, which may extend for some distance. After these first formations, there is established in the diseased structures a process of elimination and repair. The process of elimination takes place when both artery and clot are disorganized; they soften, and are cast off. These changes may extend to some distance, when the feeble connexion between the coats of the vessel and the secondary clots gives way, and fatal hemorrhage ensues. The work of repair is established when both clot and arterial tunics are completely organized. The clot may soften without decomposing. But when the process of repair goes on favorably, it becomes encysted in the vessel, adheres intimately to the artery, and obliterates its calibre. As these phenomena proceed, both the plastic formations and the secondary clots disappear.

The injection of the perchloride of iron into an artery may, therefore, give rise to two classes of phenomena, primary and secondary.

The primary phenomena are:

1. The formation of primary and secondary clots.
2. The infiltration of plastic lymph into the sheath of the artery, and adherence of the clots.

The secondary phenomena are:

1. The elimination of the disorganized parts.
2. Hypertrophy of the middle coat.
3. The encysting of the clots.
4. The disappearance of the secondary clots and of the plastic formations.
5. The occlusion of the artery.

The conclusions to which Dr. Giraldes arrives are:

1. The perchloride of  $49^{\circ}$  to  $45^{\circ}$  should not be employed either in aneurisms or in erectile tumours, its use may be followed by serious accidents.

2. In aneurisms and in erectile tumours, both venous and arterial, the perchloride should be either of  $30^{\circ}$  or  $20^{\circ}$  areometer of Beaumé, in the proportion of 5 drops of  $30^{\circ}$ , 10 drops of  $20^{\circ}$ , for a quantity of blood equal to 3 cubic centimetres.

3. The perchloride of  $45^{\circ}$  to  $49^{\circ}$  may be used as a haemostatic to stop deep hemorrhages, or secondary hemorrhage after operations.

4. The perchloride of  $15^{\circ}$ ,  $20^{\circ}$ , or  $30^{\circ}$  may be advantageously employed in hæmatoic cysts, especially when they occur in the neck.

5. In certain cases, the perchloride of  $30^{\circ}$  to  $49^{\circ}$  may be employed to modify the condition of wounds in suppuration.

(D) CONCERNING DISEASES OF BONES AND JOINTS.

ART. 81.—*The advantages of Actual Cautery in some cases of Articular Disease.* By Mr. SYME, Professor of Clinical Surgery in the University of Edinburgh.

(*Edinburgh Monthly Journal, July, 1854.*)

The cases related below, occurring in Mr. Syme's practice, and reported by Dr. Lister, the resident surgeon in the Edinburgh Infirmary, exemplify, in a very striking manner, the beneficial effects of the actual cautery in certain forms of articular disease. Many similar cases have been reported, since the time when this application of the actual cautery was first introduced into England by Mr. Syme, but as yet the practice has attracted little general attention. Case IV is interesting from the fact that caustic issues had long been tried in vain.

CASE I.—*Omalgia; Application of the Actual Cautery; Cure.*—Margaret Ashton, æt. 25, admitted October 25th, 1853; a servant; has generally enjoyed good health, and has a very robust appearance. Four months ago, after exposure to wet and cold in washing, she had a severe fit of shivering, and was seized a few days after with pain in the right shoulder, just below the acromion, so severe that she could scarcely lift the arm; this lasted about twelve hours, and was followed in the course of the next day by intense pain in the left shoulder, below the back part of the acromion. From that day till her admission she was unable to raise the arm; the pain was for the first two months extreme, keeping her as if "in the fire all night," and banishing sleep almost entirely. During the last two months she has rested from work, and has suffered less. On admission she complained of constant gnawing pain in the left shoulder, and extending down the limb as far as the elbow, and sometimes to the fingers; when in the sitting posture, she held the affected limb with the other hand, to ease the pain; the arm was also affected with a feeling of numbness and weakness; and although the shoulder was not very tender on pressure, and very gentle passive motion of the arm could be performed, through a considerable angle, without pain, yet any attempts on her own part to move it, produced great aggravation of her sufferings. As a result, no doubt, of habitual disuse, the muscles about the shoulder were much atrophied, and this caused a remarkable apparent prominence of the bony points, viz., the spine of the scapula, the acromion, the anterior border of the outer part of the clavicle, and the head of the humerus. The shoulder had an appearance that suggested at first sight the idea of dislocation.

On the 3d of November, the patient being under the influence of chloroform, Mr. Syme cauterized thoroughly the skin over the anterior and posterior aspects of the joint, rubbing a red-hot cautery iron freely backwards and forwards four or five times over each part. It had the effect of raising and rubbing off the cuticle, but did not char the skin. An hour afterwards the patient was suffering but little pain.

Nov. 4.—Said, with a smiling countenance, that she slept well last night, the first time for four months, and feels now no pain save that of the burns.

Nov. 5th.—A poultice was applied yesterday; the pain of the burn is now gone, and she feels *no pain at all*. Says that she has not only lost all pain, but also that the feeling of numbness is gone from the limb, and that she seems to have more power in it. The burned parts present a white sloughy appearance.

The poultice was continued till the sloughs separated, when simple cerate was substituted for it, with the view of retarding, rather than promoting cicatrization.

Nov. 12th.—To-day she has been trying to lift the arm, and felt none of the old pain in the attempt.

Jan. 31st, 1854.—She has to-day left the Infirmary. She has for some time past been gradually acquiring more and more power in the limb; she can move the arm backwards and forwards for a considerable extent, and even raise it slightly. The movements of the forearm are free; there is no tenderness whatever about the shoulder. The return of the use of the limb has been accompanied with a restoration of the fulness of the muscles, so that there is now no difference between the contour of the two shoulders. She continues quite free from spontaneous pain.

I saw her again towards the end of May. She was still quite free from pain, and there remained only some stiffness about the joint that prevented her from raising the arm to the full extent.

**CASE 2.—Disease of Shoulder-joint; Actual Cautery; Cure.**—Lily Kay, æt. 50, admitted March 23d, 1854. Has generally enjoyed good health, except that for the last twelve years she has suffered inconvenience from what she supposed to be rheumatism in the right shoulder, characterised by shooting pain, occurring more especially when she attempted to lift anything. In January last the limb became completely disabled from increase of the pain, which now assumed a gnawing as well as a shooting character, and also began to be felt in the elbow-joint, and in the arm, forearm, and hand. At this time she first observed the existence of swelling about the shoulder-joint.

The pain continued to increase till the time of her admission into the Infirmary, when it was exceedingly severe; not constant, but frequently keeping her awake at night. She was unable to raise the arm from the side, and had a sense of weakness in the limb, and some stiffness of the hand. There was considerable swelling about the shoulder-joint, which was tender on pressure, particularly at the anterior and posterior aspects. On the day of admission Mr. Syme applied the actual cautery freely over the anterior and posterior parts of the joint, the patient being under chloroform. From this time she lost the old pain entirely, or at least was uncertain whether that which she still felt was not altogether that of the burn; and though the pain of the burn was considerable till the sloughs separated, yet it was much less distressing than the old pain, for which it was substituted, so that she slept much better than before the application of the cautery. The sloughs came away on the 1st of April, on which day she had a slight return of the old pain near the wrist, but it has not occurred again, and she is now (4th of April) quite easy. The swelling about the shoulder has almost entirely disappeared, and there is little, if any, tenderness; the sores are granulating healthily.

April 14th.—Continues quite easy.

She was discharged on the 27th of April; I saw her about a month after, and she still continued free from pain.

**CASE 3.—Disease of Wrist-joint; Actual Cautery; Cure.**—Janet Archibald, æt. 32, admitted November 2d, 1853. Rather a weakly subject. In October last she "took a shivering," without any particular exposure to cold, and a pricking pain came on in the left wrist, which increased for a time,

and was accompanied with swelling. She applied poultices medicated with acetate of lead, and under their use a great improvement had taken place at the end of five weeks, when she got fresh cold in it, as she says, and it became excessively painful; the pain continued ever after till her admission, and although its extreme severity was then somewhat mitigated, yet it kept her awake a good deal at night; it was partly dull and heavy, and partly of a shooting character, and extended down through the hand and fingers. There was also an occasional tingling sensation in the fingers, and a sense of unnatural weight in the limb. A great degree of swelling existed about the wrist-joint, particularly on the dorsal aspect, and this part when manipulated gave a feeling very like that of fluctuation, so that her medical attendant had been desirous to open what he had supposed a collection of matter there.

Mr. Syme regarded the condition of the wrist as almost hopeless, but as he thought suppuration had not yet occurred, he determined to give the limb a chance with the actual cautery, which he accordingly applied on the dorsal aspect in two lines, crossing one another over the articulation. The pain and swelling both diminished greatly during the first four weeks after the cauterization; some aggravation of the symptoms then occurred for a time, but as the sore was still open, Mr. Syme thought it unnecessary to interfere further, and a gradual improvement afterwards took place, till at the time of her leaving the Infirmary (Feb. 14th, 1854) there was scarcely any swelling and very little pain.

I saw her again on the 10th of June, there was then no swelling whatever about the wrist, and no uneasiness except a painful feeling of weakness when she exerted it much.

*CASE 4.—Disease between the Atlas and Axis; Actual Cautery applied with great benefit.*—Thomas Smith, æt. 27, admitted June 20th, 1854. Generally enjoyed good health till eighteen months ago, when a stiffness of the neck came on without any assignable cause, with pain when he turned round his head on the pillow; the pain increased greatly, and deprived him altogether of sleep for seven weeks, during which time he lost three stone in weight. There was severe pain in the head as well as in the neck, aggravated to an extreme degree by either nodding or turning of the head, particularly the latter, which, indeed, he at last never did without turning the rest of the body also. He applied to numerous medical men in Birmingham, where he lives; and blisters and caustic issues were repeatedly applied to the back of the neck, but never gave more than very slight and very transient relief, and he says that from the commencement of his complaint, he never had one minute's freedom from pain, except during sleep, till he came here.

At this time he was, according to his own account, about as bad as he had been at all. His countenance wore a peculiar expression of mingled suffering and apprehension, as Mr. Syme expressed it. He complained of severe pain in the neck and head, aggravated by any sudden movement, so that there was a great constraint about all his actions. He always kept his head bolt upright, except when in bed, and could neither lie down nor get up without supporting his head with his hands; he never turned his head without the rest of the body, but gentle nodding was not very painful. There was great swelling of the upper part of the neck, and he could only open his mouth a little way; deglutition was extremely difficult, and a remarkable prominence of the bodies of the upper cervical vertebrae was to be felt in the pharynx.

On the day after his admission, Mr. Syme applied the actual cautery over the spinous processes of the upper cervical vertebrae; the man was not under chloroform, and said he hardly knew whether the pain was greater even at the moment, than what he had experienced from caustic issues, and immediately

afterwards he told us that he did not feel the pain of the burn at all. Next day he found less pain in moving the head, and in two or three days his countenance assumed a cheerful aspect. A steady daily improvement has since taken place in his symptoms, and at the present time (July 15th) he has no pain whatever when he sits at rest, and can also use strong and active exertion without uneasiness, and no longer requires to support his head in lying down or rising; he can turn his head round pretty freely and look up to the ceiling, and it is only in sudden movements of the neck that he feels any pain at all. The swelling of the neck has greatly subsided, and he can open his jaws wide, and swallow with comparative facility. The sore on the neck is almost healed, and he talks of leaving the hospital in a few days as cured.

**ART. 82.—*On the enlargement of articular extremities of bones in Chronic Rheumatic Arthritis.*** By W. ADAMS, F.R.C.S., Assistant-Surgeon to the Royal Orthopædic Hospital, Demonstrator of Morbid Anatomy at St. Thomas's Hospital, &c.

(*Pamphlet, 1854.*)

This pamphlet is a reprint of a communication to the Pathological Society of London, published in the 3d vol. of the 'Translations' of that society. The especial object of the author is to combat the theory propounded by Rokitansky, and generally received by pathologists, that the enlargement of the articular extremities of bones in the above-named affection, of which the alterations in form of the head of the femur are taken as the typical example, result from an inflammatory process of softening of the tissue of bone, swelling, rarefaction, expansion, and consecutive induration from osseous exudation within the tissue of the bone—osteoporosis succeeded by induration.\*

Mr. W. Adams exhibited a series of preparations to the Pathological Society, which are now in the museum of St. Thomas's Hospital, and from them he drew the conclusion, that the increased size of the head of the femur, and also of the articular extremities of other bones, did not result from an inflammatory expansion of the osseous tissue, as stated by Rokitansky and other pathologists, but was produced by a growth of new bone external to the old, to the surface of which it afterwards became inseparably connected. The chief evidence in favour of this opinion consisted in the appearances observed in sections through the enlarged extremities.

The outline of the head of the bone was generally traceable in its normal direction, and indicated by the persistence, to a greater or less extent, of the thin shell of compact tissue, naturally limiting the head of the bone, and also of an imperfect layer of articular cartilage. External to this layer of cartilage, and extending from the circumference towards the centre, was a mass of finely cancellous new bone, which produced the irregular shape and enlargement.

This new bone is generally of an irregular wedge-like form; its base rounded, projecting beyond and overhanging the edge of the articular cartilage, and its apex directed towards the centre of the head of the bone lying on its articular surface, and being itself covered by a layer

\* Rokitansky's Pathological Anatomy, Sydenham Society translation, vol. iii, pp. 17173, and 200.

of cartilage ; so that the mass of new bone is situated between two layers of cartilage, one belonging normally to the head of the bone, the other covering the articular surface of the new bone. In one specimen the wedge-shaped portion of new bone measured an inch in length, and,—at its base,—more than a quarter of an inch in breadth ; its apex corresponded to the centre of the articular cartilage, which at this point was somewhat thicker than natural, and had the appearance of being split into two layers by the advancing ossification ; one layer passing over the articular surface of the new bone, and the other between the new and the old bone in its normal direction. In most sections the last-described layer was thicker than the former.

These appearances seemed also to warrant the conclusion that the new bone had been developed in the centre of the articular cartilage. In some instances ossification had increased equally in every direction, so that rounded osseous-like growths were formed ; and, in others, it extended as a ring-like layer over the articular surface, thick and rounded at the circumference, narrowing to a point towards the centre of the head.

The evidence of these new super-added osseous growths being developed in articular cartilage was equally conclusive in the specimen of the disease as affecting knee-joint. Sections through the prominent nodules in the central portions of the cartilage on the condyles of the femur, showed these prominences to depend upon irregular hypertrophy of the cartilage, the hypertrophied portions generally containing a central point of ossification. The process here could be traced from its commencement. As ossification of these nodules advances, a junction with the articular surface of the new bone is soon effected, and,—the thin limiting layer of compact bone becoming absorbed,—the appearance on section is that of a continuous mass of cancellated structure. The gradual disappearance of the articular cartilage between the central point of ossification and the articular surface of the bone may be traced in different sections. In consequence of this junction, which seems invariably to occur, though at different periods, these growths have uniformly, so far as Mr. Adams's observations have extended, a broad base, and therefore they never become pedunculated, or form loose cartilages.

These new super-added osseous growths are at once distinguished, by their situation either at the margin or in the centre of the articular cartilage, and, by their broad bases, from the pedunculated osseous growths above adverted to ; which, either solitary or in clusters, are so frequently found attached to the synovial membrane near the borders of the articular cartilage, on the neck of the bone, in the notch between the condyles of the femur, and in all parts removed from direct pressure.

The formation of these pedunculated osseous growths, which were unusually numerous in the knee-joint commented upon, and in which one had become detached, forming a loose cartilage, could be satisfactorily demonstrated to commence in the synovial fringes or glands first described by Mr. Rainey, and referred to by him in the 2d vol. of the 'Pathological Transactions,' page 110, in connection with the

microscopical examination of some loose cartilages removed by Mr. Solly from the elbow-joint, which Mr. Rainey inferred had probably been formed in the synovial fringes.

The microscopical characters of the different layers of cartilage, and of the new bone in the enlarged head of the femur, are then minutely detailed, and the author remarks :

From these observations it appears that the process of enlargement of the articular extremities of bones affected with chronic rheumatic arthritis consists—

1st. In hypertrophy of the articular cartilage, generally occurring at the circumferential margin, but occasionally taking place towards the central parts of the articular surfaces. The new growth of cartilage takes place principally, if not entirely, near to the articular surface. The propriety of the term, hypertrophy, may perhaps be questioned, since the new tissue is not precisely identical with perfectly formed articular cartilage; and Rokitansky, Henle, and other observers state, that articular cartilage is not liable to hypertrophy; the difference, however, between the newly formed and original cartilage was, in some parts, extremely slight, for, near to the osseous border, in the new cartilage, the intercellular matrix was often free from any fibrous tissue, and in some places the nuclei appeared to be in process of aggregation. Generally, a fibrillated character of the matrix, and the scattered, solitary, or imperfectly grouped arrangement of the nuclei, distinguished it from normal articular cartilage.

2dly. In the development of true osseous tissue in the hypertrophied cartilage, ossification commencing either in the newly formed cartilage, or at the junction of the new with the old cartilage. Ossification proceeds more rapidly in the newly formed, and forming cartilage, for its growth is probably simultaneous with the advancing ossification, than in the old articular cartilage; so that considerable masses of new bone are formed, altering the configuration of the articular extremities, whilst a layer of articular cartilage remains in its normal position. More slowly, but as perfectly, ossification takes place in this imbedded layer of articular cartilage. The process resembles the normal process of ossification in temporary cartilage in the intercellular matrix being the primary seat of earthy impregnation, and the enlargement of the cells in the immediate vicinity of the bone. The chief point of difference seems to be the absence of any definite arrangement of the cells near the line of advancing ossification, and the resemblance in the cells to those usually called compound cells.

The precise part played by the cells in the ossifying process was not more determinable than in the normal process of ossification. Generally, they appeared to be passive until included within the advancing line of ossification, when the large compound cells of the imbedded articular cartilage seemed to form areolæ or spaces, and the nuclei in the new cartilage gradually to form perfect lacunæ with canaliculi; but in the imbedded articular cartilage, there were no scattered nuclei from which lacunæ could be formed, yet they existed in the bone developed in this situation. With respect to ossification of articular cartilage, Henle, Sharpey, and other physiologists especially

refer to an absence of a tendency to ossify as one of the characteristics of articular cartilage. Sharpey says, "the matrix of articular cartilage rarely, or perhaps never, becomes pervaded by fibres, nor is it prone to ossify."\*

The view here taken of the formation of these osseous growths, not only explains the mode in which the articular extremities of bones become enlarged in chronic rheumatic arthritis, but it satisfactorily proves the "expansion theory" to be inapplicable to a large class of cases which have generally been adduced, especially by Rokitansky, in illustration of it. Mr. Adams indeed entertains considerable doubt of the soundness of this theory as applied to the inflammatory process in bone generally, the enlargement of the shafts of the long bones, &c.

(E) CONCERNING ANÆSTHETICS.

ART. 83.—*On Cold as an Anæsthetic.*

By (1) Dr. JAMES ARNOTT; and (2) others.

(*Medical Times and Gazette*, July 1, Aug. 5, and Sept. 30, 1854.)

1. Arguing from the frequency of deaths from chloroform, Dr. James Arnott considers it imperatively necessary to substitute a safer anæsthetic, and he again urges the claims of cold to preference. In the present instance his object is to institute *a comparison between chloroform and cold as anæsthetics*. He proceeds:

"It is commonly supposed that the application of benumbing cold must be a difficult and troublesome proceeding; much more so, in both respects, than the administration of chloroform. The very contrary is the truth. Whether the cold is applied by keeping in contact with the part, for a few seconds, a refrigerating mixture of ice and salt contained in a gauze bag or a thin metallic vessel, or by touching it with a thick piece of copper that has been dipped in such a mixture, nothing can be easier; and it is impossible to fail. Different from chloroform, the anæsthetic effect is complete within a minute; and, as it has no unpleasant consequences, the surgeon is released from those protracted attentions which he is so often called upon to give in allaying the nervous symptoms that frequently follow the administration of chloroform. He requires no assistant; and, as the anæsthetic brings no new danger of its own, his mind is undisturbed during the operation, from the anxiety which he would suffer from chloroform on this account.

"The expense of either plan is so trifling, that it does not deserve mention with respect to private practice; but, with reference to hospitals, where the strictest economy is required, it may be worth while to state, that cold does not cost a twentieth part of the price of chloroform. In using a frigorific mixture for remedial purposes in dispensary practice, I have made two pennyworth of the materials answer for several cases in succession. Mr. Ferguson, of Giltspur Street, has had benumbing vessels elegantly made of silver; but, however well suited for private practice these may be, a rougher apparatus

\* Quain's Anatomy, 5th edit., p. 123.

will answer. On one occasion, in employing congelation in phlebitis, I borrowed for the purpose the net which confined the hair of the attendant nurse; and the principal ingredient cost as little as the instrument which contained it, for, there being a snow-storm at the time, it was gathered from the door-step.

"The perfect safety from cold, and the anæsthesia from chloroform in the deepest operations, are the great respective advantages of these agents. Of the thousands of times intense cold has been used, not once has it been followed by any more untoward event than a slight cutaneous irritation. If the skin is merely benumbed, no redness follows the application; if congelation of the adipose matter under the skin is caused, a redness comes on, which may continue for a day or two. But, as explained elsewhere, this is the very contrary of inflammation. Instead of being a symptom of inflammation, the redness shows that a condition of the part exists, rendering inflammation impossible. And in this safety produced by congelation, there is an advantage not inferior in importance to the insensibility. For, to the erysipelas and phlebitis following surgical operations, the greater number of deaths occasioned by them is to be attributed.

"The anæsthesia from chloroform in deep operations can only be called perfect under the supposition, still contested, that the unconsciousness of the patient afterwards, that he has submitted to an operation, proceeds from having felt no pain, and not merely from having forgotten it. To judge from his struggles and cries, the latter would be the conclusion.

"The anæsthesia produced by chloroform is by no means so certain as the anæsthesia produced by cold, because, in the latter case, there is no unconsciousness. But, in deep operations, it is only the incision of the skin which is very painful. The most eminent orthopædic practitioner of the day states, in a letter to the writer, that in the operations he is conversant with, the only source of pain is the incision of the skin; and perhaps no surgeon has had so good an opportunity of forming an opinion on this point. But all will agree, that if the sensibility of the skin were suspended, there would be very little suffering from the cutting of the deeper parts. So little, indeed, that it becomes a question whether life should be endangered by suspending it. The pain attendant on tightening the ligatures of arteries could be easily obviated by the momentary-previous application of a congealing copper ball.

"Chloroform, by causing unconsciousness, prevents the patient from assisting the surgeon in his operation, and from apprising him of mistakes that may happen in its performance. The public has just been reading, with horror, the account of attempts made to drag a stone from an unopened bladder by a forceps, introduced through the wound, and grasping both stone and bladder. But for the insensibility induced by chloroform, the screams of the unfortunate child would at once have indicated the error; and the system, perhaps, is more to be blamed than the surgeon.

"In the act of administration, and afterwards, certain inconveniences attend both measures. Chloroform, besides producing unconsciousness, causes a sensation of choking, and is often succeeded by headache,

sickness, and prostration. Cold, applied only to the degree of benumbing (which may often be sufficient), causes no unpleasant sensation ; but when congelation is produced, there is a sense of pricking, like that caused by mustard, both at the time, and after the return of the circulation. This subsequent smarting may be entirely prevented, by a moderate application of cold ; and that which first takes place may be lessened, if thought worth while, by a little management.

“ In recapitulating the subject, we may say, that although, in deep operations, the insensibility produced by chloroform may be greater than that produced by cold (unless this were applied in the successive stages of the incision), in all superficial operations, which constitute the immense majority, cold is superior to chloroform in the circumstances of safety, ease of application or the saving of time and trouble, certainty of producing anæsthesia, and, lastly, in the power it possesses of preventing subsequent inflammation. Surely, a conscientious and humane surgeon will not allow the prejudice against novelty or innovation to outweigh so decided a superiority. Anæsthesia will, no doubt, henceforth be a required element of every surgical operation, but chloroform, fortunately, is not the only mode of producing it.”

2. On the other hand, cold is not always so effectual a substitute for chloroform as Dr. Arnott would have us imagine, and some cases in point are reported in the ‘London Practice of Medicine and Surgery.’

In one instance the reporter writes :

In several cases recently operated on at St. Bartholomew’s Hospital, trial was made as to the efficiency of congelation in preventing the pain of the incisions. Whether from a too timorous use of the means, or some other cause, the success was not so complete as could have been desired, since the patients evidently felt. Mr. Paget, however, has informed us, that in private he has, on several occasions, tried the plan, and found it to answer fully the intention of its proposer. The operations were for the removal of subcutaneous tumours, in which the main point was, that the patient should not feel the incision through the skin. In one case Mr. Paget excised a fatty tumour from the shoulder of a lady, the skin having previously been frozen ; and although the incision required was four inches long, yet no pain was complained of. In proof that congelation does not hinder the subsequent healing, it may be mentioned, that in that instance a considerable part of the wound united by the first intention, and the rest of it soon closed. The mixture used was about equal parts of pounded ice and salt, enclosed in a coarse muslin bag. This was by degrees applied to the surface to be operated on, and, as the patient got used to the sensation, allowed to remain on it. The process occupied from four to six minutes, and caused no pain. Operators who make use of this plan, must recollect that the skin does not cut so crisp as natural when frozen, but like tough soap, requiring a little modification in the handling of the scalpel. The apparatus recommended by Dr. Arnott, a gauze bag, a large brass ball, a spoon, &c., is now kept by the instrument-makers ; but it is very simple, and may easily be extemporised without cost.

On another occasion the same reporter notices two other cases. In the first, the patient was a woman, under the care of Mr. Walton,

in St. Mary's Hospital, from whom it was necessary to remove a fatty tumour on the abdominal wall. The tumour was subcutaneous, and felt quite as loose as such tumours generally are; it had the size of an adult fist, somewhat flattened. Nearly an hour was wasted in unsuccessful attempts to freeze the skin, but as this was due, of course, to mistakes in manipulation, it should not be charged against the process. At length, a mixture, properly made, was applied, and in about four minutes the requisite area of skin was frozen, as white and hard as could be wished. Without the loss of a moment's time, Mr. Walton made a deep incision through the whole required extent of skin into the tumour. This gave no pain. The tumour was seized at once, and forcible enucleation attempted. It could not, however, be extracted so easily as had been expected, and adhesions, both to the skin and to the deeper parts, required to be divided by the knife. At one part, where it appeared to have been pressed upon by the edge of the woman's stays, the adhesions between the tumour and skin were very close, and a careful division was needed. The operation lasted perhaps altogether about four minutes, and during the whole of that time, excepting the first cut in the skin, the patient was making loud cries and protestations of pain. It should be stated, that she was a remarkably quiet person, and one who did not complain for little.

In the second case, the patient was a man of middle age, under the care of Mr. Critchett in the London Hospital. The tumour was a fatty one, about the size of a large fist, and situated beneath the skin in the upper part of the front of the thigh. The freezing of the skin was very complete, nearly five minutes had been occupied in the process, and the incision into it appeared to be quite painless. The tumour had, however, rather intimate adhesions, more especially to the integuments; and the man complained much at almost every touch of the knife, excepting the first.

We had witnessed before the above several cases of partial failure in the case of cold, but were inclined to attribute them somewhat to timorousness in its use; in these, however, it was fairly and sufficiently used. Their evidence seems clear to the effect, that, unless the tumour be so loose, and almost instantaneous enucleation can be performed, a painless operation must not be expected. The anaesthesia does not extend at all deeper than the skin; and even in it recovery of sensibility is so rapid during the manipulations, that the division of adhesions to its under surface will not be painless unless made without a minute's delay. There are, doubtless, a large number of cases in which, despite these drawbacks, anaesthesia by cold may be made very useful; but the surgeon must always be careful not to promise to his patient a painless operation. As it regards the excision of tumours, it will probably, in a few instances, be completely successful, and in many others sufficiently so to afford a good pretext for avoiding the use of chloroform. It is, perhaps, adapted best of all for use in the very painful operations which it is so frequently necessary to perform on the fingers and toes. Here it can be applied from several sides at once, and a more complete and less transitory degree of anaesthesia produced.

## SECT. II.—SPECIAL QUESTIONS IN SURGERY.

ART. 84.—*On the treatment of Ulcers of the Cornea.*

By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*Lancet*, July 15, 1854.)

The subjoined passage, from a course of lectures on Diseases of the Eye delivered at the London Hospital, sets forth very clearly the true principles of treatment in this often mismanaged, and where mismanaged, very serious affection. Mr. Critchett says:

In all cases in which you have ascertained with certainty the existence of an ulcer of the cornea, it is a good precaution to impress the fact on the mind of the patient or some friend, and to remind them that under the most favorable circumstances and the most judicious treatment, a permanent opacity must be expected; otherwise, as the cure is accomplishing, they become dissatisfied, and the blemish, which is to the surgeon the proof of success, may be attributed to inefficient or improper treatment. If, however, the partial eclipse be predicted credit is rather gained than lost when the prediction is fulfilled. During the first stage, mentioned in the last lecture, that in which the ulcer is in process of formation, there is usually an excess of local action in the conjunctival membrane, and the usual symptoms of acute ophthalmia. Soothing applications, such as poppy fomentation or warm water, together with the local abstraction of blood by means of a few leeches to the temples, followed up by counter-irritation behind the ear, are the most likely means of arresting the ulcerative process; at the same time, it may be necessary to sustain the general power, and counteract by constitutional treatment any abnormal state of system that may exist. Thus, in children, struma is often found in league with corneal ulceration. At puberty the menstrual function may be at fault; prolonged lactation is a fertile and very embarrassing cause; and, later in life, a feeble, shattered, and physically depraved state of system, the result of constant and prolonged intemperance, gives rise to ulceration of the cornea. These various conditions must be combated with such means as we have; and we must ever bear in mind, if we would be successful practitioners, that the most active and destructive inflammatory and ulcerative processes are compatible with, and even dependent upon, a very feeble state of system, which may require tonics, stimuli, and a very liberal dietary for their cure. This point I have already insisted upon, but I hold it to be of such importance, and so very imperfectly recognised by the profession generally, that I take every available opportunity of urging it. I cannot but rejoice to find this view ably developed and abundantly illustrated in the lectures delivered last summer by Mr. Skey at the College of Surgeons. I very early imbibed this opinion from my late teacher,

Mr. Tyrrell; subsequent experience has given me almost daily evidence of its truth, and I cannot but hope that the eloquent appeal that has been made from so high an authority, and to such an audience, will result in the establishment of so important, so vital a principle.

In cases of acute and spreading ulcers, where penetration of the cornea is threatened, it becomes a matter of extreme importance to determine whether there is any means of arresting the progress of the ulceration. However judiciously the constitutional treatment may be conducted, there is every fear that penetration may occur before a favorable reaction has time to take place; it, therefore, is an anxious question, whether we can, by any local application, bring about an altered action in the part, and avert the impending danger. It is in such cases as these that I have found the nitrate of silver, in substance, of great value; it should be finely pointed, and carefully limited as much as possible to the ulcer itself; in order to effect this object, glycerine should be dropped into the eye previously, so as to protect the remainder of the surface from the action of the caustic. It seldom requires repeating more than once or twice, and it will frequently be found that the ulcer will begin to fill up and heal from that time. In other cases, it must be admitted that the effect is less favorable—that it is productive of considerable pain, of increased inflammatory action, and of infiltration of matter between the corneal layers. This I have chiefly observed amongst the old and feeble; but the happy result that occurs in numerous cases, and the extreme urgency and threatening aspect of the symptoms, fully justify and even suggest the plan I am now advocating.

I have usually observed that these ulcers occupy a considerable area; and if we are unable to arrest their progress, and penetration occurs, the iris immediately falls forward, in contact with the opening, which gradually enlarging, allows of its protrusion, and thus "prolapsus iridis" occurs; the natural resisting power and elasticity of the globe is weakened, the prolapse increases, the anterior surface of the eye bulges forward and staphyloma occurs. It is very desirable, if possible, to obviate this latter result; and here, again, it has been suggested to apply the nitrate of silver, in substance, to the protruded part. The objection to this plan is, that it often causes severe pain, and is by no means uniformly successful, and therefore I cannot recommend it. I much prefer either puncturing the prolapse with a needle, which often causes it to contract and shrivel away, and thus to close up the corneal opening; or in case that fail, and the protrusion still increases, to remove it entirely. Under the most favorable circumstances, when disease has produced such results, the integrity of the organ is seriously compromised; but it is quite possible that sufficient space may be preserved for the formation of an artificial pupil, and under any circumstances, it is most desirable to prevent the occurrence of a large staphylomatous protrusion.

In the glassy ulcer, there is very little to combat locally, the conjunctiva is very slightly injected, there is no surrounding opacity in the cornea, and no indication of any morbid action in the part, except the loss of substance. Here we have evidently an error of nutrition, and our chief efforts must be directed towards the constitu-

tional condition of the patient. We must endeavour to correct, as far as possible, the baneful influences to which such patients have usually been exposed, in the shape of impure air, small, ill-ventilated abodes, insufficient and unwholesome food; giving, at the same time, such medicines as are calculated to assist in sustaining the general powers of the patient. This object it is often very difficult to effect. We suggest changes which poverty and ignorance are either unable or indisposed to adopt, and the debility resulting from a protracted exposure to these numerous sources of disease requires a very complete change and a very long course of sanitary and medicinal treatment for its removal; hence, one of the remarkable features in the transparent ulcer is the very lengthened period during which it will remain stationary, and unaltered in its size and other characters. The local treatment is comparatively unimportant, and should be of a very mild character. It has been suggested that the salts of lead, in solution, should not be employed in ulcers of the cornea, on account of the tendency to a permanent deposit upon the surface. I have observed this on more than one occasion, and it is quite in harmony with what occurs when the acetate of lead is powdered over granular lids; and as there is no counteracting advantage to be gained by the use of lead lotion, it is better to abstain from it altogether where ulceration exists. Some cooling, unirritating collyrium, such as rose water or elder-flower water, or a weak solution of vinegar, is the best local application. Where the case is very protracted, and the surface of the ulcer becomes irritable, it is sometimes advantageous to touch the surface lightly with the fine point of the nitrate of silver. I much prefer this to the employment of a solution of lunar caustic, which irritates the conjunctiva, without acting so directly upon the ulcer, and often seriously aggravates the case. It is particularly important, in the glassy ulcer, to apprise the patient or his friends that an opacity of the cornea must be expected, otherwise the symptoms are so mild, and the evidence of breach of surface so faintly appreciable to uneducated vision, that discredit may easily attach to the surgeon who is in attendance, and, as the ulcer begins to fill up, an impression will be gained that the case is retrograding, at the very time when it is drawing to an auspicious close.

In cases of ulcer with a vascular membrane and organized deposit upon its surface, which is usually somewhat raised above the level of the rest of the cornea, and in which red vessels may be seen travelling to supply it, the treatment is difficult. We have here new and organized deposit to combat with; diseased action seems to have established itself, and (if I may use the expression) to have taken up its abode in the part, and this very much increases its power of resisting all remedial means, and its constant proneness to relapse or return after apparent subsidence. I have had an opportunity of observing several of these cases at the Ophthalmic Hospital; they usually apply after this condition has existed for a considerable time, and when a variety of remedial means have been exhausted upon them. They generally occur in young females about the age of puberty, or a little anterior to this, although they are also found in young strumous children. I believe them to be due, in the first instance, to a disturbed, altered,

or arrested function of some important organ in a feeble or strumous diathesis, aggravated by an active depleting plan of treatment, or by the injudicious and protracted use of strong local stimuli, particularly the nitrate of silver. The obvious inference is, that every available means must be taken to bring about and maintain the normal function of any organ that may be at fault. This is particularly necessary as regards menstruation; at the same time I may add that I have frequently found the local disease, when thus established and organized, continuing in full force long after the constitutional vice to which it owed its origin has passed away. As regards local treatment, I have usually found stimuli of all kinds injurious; soothing applications are the best; sometimes one or two leeches, applied about every other day for a week or two, are of use, particularly where the vessels are rather numerous and full, and the inflammation is in a sub-acute stage; but that which has appeared to me to be of the most marked and essential service in this form of disease are *issues* inserted into the temple, and kept there for many months. I usually employ a small pea for this purpose, which must be changed daily. I am aware that some high authorities, and Mr. Tyrrell amongst others, sweepingly condemn the use of issues in all cases of eye disease, on the grounds of the severity of the treatment, its general inutility, and the subsequent deformity. I admit that these are objections in slight and transient cases; but they lose their force when we are considering a severe, obstinate, protracted disease, liable to relapse, detrimental to sight, and effectually preventing all use of the organ while it remains unsubdued. It is for such cases that I would reserve the employment of issues. A morbid action has become established in the eye, and requires a prolonged discharge in its immediate vicinity gradually to divert it from its original seat, and to weaken the tendency to relapse—at least, such is the explanation I am disposed to offer; but, whether correct or not, I entertain no doubt whatever of the power and value of the remedy. I have succeeded in completely and permanently curing several cases of this kind by the prolonged use of issues when they had baffled all other means for many months and even years, and when the constant irritation and necessary confinement were casting a gloom upon what would otherwise be the brightest period of life. It seems to me, that, to obtain emancipation from such a condition, a small scar on the temple is but a slight penalty, and one most freely paid by the sufferer.

When the cicatrizing process is going on favorably, the only practical point we have to consider has reference to the opacity remaining in the cornea; this is often a cause of great anxiety on the part of the patient, on account both of the deformity and the dimness of vision resulting from it, and its removal is frequently sought. I believe time will effect much in this respect, as we find, in other scars, a gradual contractile process goes on for a considerable time, and the surrounding deposit entirely passes away, so that a very decided diminution of the opacity ultimately takes place. Much confidence is expressed by some in the action of various local stimuli in promoting the absorption of such opacities; thus, solutions of the nitrate of silver, of zinc, of iodide of potash, calomel, and various other stimuli,

are each of them in high favour with different observers. It is extremely difficult to estimate the value, either positive or relative, of any of these means, when we know the natural tendency is towards a gradual absorbent action. It is impossible to avoid the conclusion that, whilst it may be the result of our application, it may also be irrespective of, or it may even be in spite of, the means employed; and, I must confess to some degree of scepticism in regard to the efficacy of any of these stimuli in removing opacities; at the same time I am quite aware that in practice it is often necessary to employ something of the kind. I generally use a solution of the iodide of potash—five grains to an ounce of distilled water—dropped in three times a day. It does not cause pain, and its action is gently stimulating and absorbent. I think the nitrate of silver objectionable, because I have seen several cases in which its prolonged use has caused a permanent stain in the conjunctiva. If we do employ it, care must be taken not to continue it for any lengthened period; certainly not above five or six weeks at a time.

**ART. 85.—*Of the advantages of Local Stimuli, and particularly Nitrate of Silver, in Ophthalmia.*** By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*Lancet*, May 13 and 27, 1854.)

Mr. Critchett entertains the highest opinion of the benefits arising from this kind of treatment in catarrhal and purulent ophthalmia.

Of *catarrhal ophthalmia* he says:—"If this affection be correctly diagnosed and attacked early, it may be cured rapidly and almost invariably by local stimuli; and of these, by far the best, according to my experience, is a weak solution of the nitrate of silver, in strength about two grains to the ounce, of distilled water, gradually increased to six grains. If applied in the early stage, however severe and well marked the disease may be, it will generally subside in a few days. The time required for cure being, according to my observation, pretty accurately measured by the interval between the first development of the disease, and the commencement of the remedy. As, for example, if the treatment be commenced on the third day, it will be well by the sixth day, and so on. I know of nothing that more thoroughly deserves the name of a specific than this. It should be carefully dropped in the eye with a camel's-hair brush or a quill, and may be repeated every three or four hours in severe cases. It causes slight smarting at first, which rapidly subsides, and then the patient feels great relief. The more completely the case is adapted for this treatment, the less pain does it occasion, and the more speedily does it pass off. It is in the epidemic form that the beneficial effect is the most rapid and clearly marked. If there be any unusual complication, as one or more pustules or aphtha, or if there be much constitutional disturbance, the effect is less decided and satisfactory, and it even sometimes fails, and must be discontinued, some astringent, as a solution of alum, being substituted. Some recommend that the caustic should be applied in a much less diluted form. Thus, Mr.

Guthrie is, I believe, in the habit of using a strong ointment, containing ten grains of the nitrate of silver to a drachm of lard. As I usually succeed with the milder solution, I cannot speak from personal experience respecting this ointment, but I have no doubt it answers perfectly well, the important point being, rather, the suitability of the case than the strength of the stimulus.

"I feel that the profession is much indebted to Mr. Guthrie for bringing prominently before them the value of nitrate of silver in eye disease; at the same time it is to be regretted that this distinguished surgeon, whilst probably instinctively selecting the suitable forms for its application in his own practice, has not very clearly defined the cases to which it should be limited. For we must ever remember that, like other powerful agents, it is equally efficient for good or for evil; whilst it is a remedy of sovereign value in suitable cases, it is most injurious when misapplied, and I have frequently known it to set up a specific inflammation, a sort of nitrate of silver disease, that is most intractable and distressing. The rule I lay down is this, *that in genuine catarrhal disease, it is a specific, and that it is useful in all cases in which the discharge from the conjunctival membrane is of a mucopurulent or purulent character, provided the disease is limited to that membrane, and has not extended to the cornea or other tissues of the eye.* I find that relief ought very speedily to follow the application, and that the pain is slight; if therefore this be not the case, if the symptoms are decidedly aggravated, and the pain increased after a few applications, it is better not to persevere. The case has probably been mistaken, and is unsuited, or some complication has been overlooked; and we must always remember that in using this remedy, if we are not doing good we are doing harm.

"I have dwelt thus minutely, and at some length, upon this plan of treatment, because I believe that there exists in the minds of most medical men, and also in the pages of most ophthalmic works, very vague ideas respecting the use of the nitrate of silver in diseases of the eye, both as regards its value and the cases to which it is applicable. One of the most practical works we have on eye disease—viz., that by the late Mr. Tyrrell,—condemns the use of the nitrate of silver, *in toto*; others seem almost equally indiscriminate in its commendation; it is therefore not to be wondered at that those who have not extensive opportunities of bringing these divers and contradictory views to the test of experience should acquire confused and erroneous opinions on this truly important practical point.

"In advocating the use of a solution of the nitrate of silver in catarrhal ophthalmia, I do not wish to limit the treatment to this particular remedy; I am merely desirous of setting forth the stimulating plan as contrasted with the antiphlogistic, which is strongly advocated by some high authorities, and which I feel satisfied will not control these specific inflammations of mucous membranes. Other stimuli, particularly alum and the sulphate of copper in substance, may be employed with advantage; but I think, as a general rule, the nitrate of silver is the best; in fact, I have found it too uniformly successful, where the cases have been properly selected, to allow me to doubt its specific power over the disease. The only treatment I adopt

in addition to this is, to smear the eyelids at night with spermaceti ointment, to prevent agglutination in the morning. No medicine of any kind is usually required, and the ordinary diet may be continued throughout the treatment of the case.

Mr. Critchett speaks in the same way of purulent ophthalmia :

“ The treatment of these cases is merely local ; it is very simple, and the result highly satisfactory. All that is required is the frequent application of some mild astringent or caustic lotion to the surface of the conjunctiva. At the Ophthalmic Hospital we use a solution of alum, from five to ten grains to the ounce ; but a weak solution of nitrate of silver answers equally well, and I think acts more rapidly. The essential point is, that whatever is used is well applied to the surface of the membrane. A frequent source of failure is to be traced to the neglect of this measure. The remedy has been judiciously chosen, but has failed for want of being properly applied. If a lotion is used, it should be frequently injected with a syringe between the lids, so as to wash away the discharge, and get well over the surface of the membrane ; if drops are used, the eye should be first carefully cleansed. This plan of treatment, when properly carried out, is almost uniformly successful. Out of many hundred cases that I have seen, I can scarcely recall a single instance where sight has been lost, if the treatment has been commenced sufficiently early in the disease.

“ Often as this plan of treatment has been urged, and unanimously as it has been agreed upon by ophthalmic surgeons, simple as it is in its application, and certain in its results, yet painful experience proves that it constantly requires to be reiterated with increased emphasis. It is not unfrequently our painful duty to witness cases of this kind where sight is damaged and even destroyed for lack of a little practical knowledge of this subject on the part of some of my professional brethren. If the despairing aspect and piteous cry of but one poor mother upon whose mind the sad truth suddenly breaks in that her child is hopelessly blind, could image itself to the sight and echo in the ears of those members of our profession, it surely would arouse attention to the importance of devoting a few thoughtful hours and some anxious care to this disease. So strongly have I been impressed upon this subject when I have had a case brought to me hopelessly blind, and have found that it has been under inefficient medical treatment, that I have felt that if it were permitted me to whisper but one short sentence in the ear of every member of our profession that should contain the essence of the greatest good to humanity with which I am acquainted, the one I would select in preference to all others would be—“ *Local stimuli should be applied early, often, and thoroughly to the conjunctival surface in purulent ophthalmia of infants.*”

ART. 86.—*A rare form of Pustular Ophthalmia.* By Mr. CRITCHETT.

(*Lancet*, May 13, 1854.)

“ There is one modification of this disease (pustular ophthalmia),” writes Mr. Critchett, “ which I have observed, but which has not been described in ophthalmic works. A patch of red vessels is seen on the

outer part of the eye near the cornea; it is elevated, of a deep-red colour, and rather large; it seems to have no tendency to form pustule, vesicle, or ulcer; it is apparently situated in the sub-conjunctival tissue, where a distinct tuft of capillary vessels, organizing a fibrinous deposit may be seen. The conjunctival vessels over it are also enlarged; it does not involve contiguous tissues, and produces but little disturbance to the eye; it is rather rare: it occurs between the age of thirty and forty, and seems to depend upon an asthenic condition of system. I have met with a few well-marked examples of this disease. I have found it very persistent and disobedient to treatment, and it is important to distinguish it from the more common forms, when giving an opinion as to its probable duration."

**ART. 87.—*Is Belladonna useful in Iritis?***

By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*Lancet*, Sept. 9, 1854.)

Authorities are at variance as to the propriety of using belladonna with the view of dilating the pupil. It is contended, on the one hand, that if the pupil is allowed to become very small, that it forms adhesions, is permanently contracted, and the capsule of the lens is rendered dull and cloudy; but that if the pupil is kept large, even if the capsule is implicated, some clear space for vision usually remains. Those, on the other hand, who are opposed to the use of belladonna, say, that if the iris is implicated the pain and irritation are much increased by the dragging effect of this drug, and that if adhesions have formed it does not enlarge the pupil, and therefore that the motive for its use is not accomplished, whilst positive mischief is occasioned. There is doubtless much truth in the argument on both sides. In the early stage, when the iris is but slightly affected, it is useful to enlarge the pupil, and when the disease is subsiding the same effect may be produced with advantage; but during the active and fully developed stages of the disease, when the iris is thoroughly involved, belladonna often gives great pain, and does not influence the size of the pupil.

**ART. 88.—*Report of thirty-two cases in which "Abrasion of the Cornea" was practised.*** By M. SZOKALSKI.

(*Révue Méd.-Chir. de Paris*, Dec., 1854.)

This operation is generally very simple, and anaesthesia is not necessary, except in children and in very sensitive adults. The patient is placed in a sitting posture with his head against a wall, or on his back with his head resting on a cushion. Then, having separated the eyelids by the instrument of Kelly-Snowden, and fixed the eyeball by slight pressure with a finger, the opaque portion of the cornea is to be scratched with the edge of a cornea-knife, just as an ink-blot on paper might be scratched. This operation has to be repeated several times,

and in the end the cornea becomes transparent, partly by the mechanical removal of the opaque portion, and partly by the increased activity of the process of absorption which is brought about by the operation.

Of 32 cases treated in this manner, Dr. Szokalski reports 15 as cured; 8 as partially cured; 5 as receiving neither good nor harm; and 4 as being materially damaged by it.

Of the 15 cases, which were successful, the opacity was cloudy, superficial, and having a granular appearance when the eye was looked upon from the side, in 8; it extended somewhat into the substance of the cornea in 4, and still more deeply into that substance in 3.

Of the 8 cases, in which the success was partial, the opacity was profound, and partly composed of old cicatrices.

Of the 5 cases, in which the operation did neither good nor harm, the opacity was slight, and the condition of the eye seemed favorable, and it was not easy to account for the failure of the operation.

When the operation did harm, the mischief was generally in the interior of the eye, the inflammation beginning, not in the conjunctiva or cornea, but in the iris and anterior chamber, and once developed, running rapidly on to evacuation of the humours. Such mischief was more likely to happen the nearer the part operated on was to the edge of the sclerica.

M. Szokalski lays down two rules, which are these:

1. To operate in several consecutive sittings, and very circumspectly at first.

2. And never to operate too near to the edge of the cornea.

These results deserve very great attention, for if they are far less favorable than is here represented, they are more than sufficient to justify the performance of the operation, and that not only in the cases where sight is altogether lost from opacity of the cornea.

#### ART. 89.—*On Artificial Cornea.* By Dr. NUSSBAUM.

(*Siebold and Kölliker's Zeitschr. für Wissenschaftl. Zoologie*, Dec., 1853; and *American Quar. Jour. of Med. Science*, July, 1854.)

In March last, Dr. Burnett read a paper before the "Boston Society of Medical Improvement" on Dr. Nussbaum's proposal for introducing a glass cornea in those cases where there is more or less blindness from opacity of the cornea. When the paper was read Dr. Nussbaum had not operated upon man, but since this time he has operated in one instance, and without success. The proposal is said to be the revival of an operative procedure which had become obsolete.

Dr. Nussbaum proposes this artificial cornea as a substitute for transplantation of the cornea. After alluding to the many contingencies of failure attending the bold practice of transplantation of the cornea, Dr. Nussbaum says he was led to make experiments relative to what substances would be least offensive as foreign bodies in the healthy tissues, in view of using such for an artificial cornea. After experiments upon his own body, he found that, of many solid substances, glass produced the least irritation, and in some instances scarce any at all. With this fact obtained, he formed a circular cornea of glass, perforated

by a hole two thirds its width. This he introduced into the eyes of dogs, having previously removed a corresponding portion of the cornea. But it was attended with *no* success; for, aside from the extreme difficulty of removing a portion of the cornea *exactly* the size of the artificial body introduced, there was much disturbance following the introduction of so large a body in so delicate a tissue, such as suppuration, &c., with a loss of the eye in the end.

Thus foiled, he says, it occurred to him that an orifice, of the size of a pin-hole, is sufficient to admit a good image of an object, if the eye is placed directly near it; as, for instance, in looking through such a small hole in a piece of pasteboard. With this hint, he made a new trial, forming the artificial cornea after a new model, and of a much smaller size. Its general form was much like that of a shirt-stud, there being a main-shaft with a rim on each end; but, instead of being round or circular, both shaft and rims were compressed laterally, being, therefore, of an oblong instead of a circular form. The artificial cornea, thus formed and shaped, was not much larger than the head of a large pin, and perforated by a hole of an oblong shape and of a correspondingly minute size. With this new model of a cornea, he proceeded to operate upon the eyes of some puppies. Instead of making a circular incision, as in the first experiments, a simple slit only was here required. In this slit of the cornea, the new body was introduced exactly as a shirt-stud is put in a shirt.

The following is his description of the operation:

"For the operation are required, a cataract knife, a pair of small anatomical forceps, and, for the emergency, Cooper's scissors. In the absence of a good assistant, there is needed a lid-holder of Kelley Snowden, and when the eye is very restless, a sharp hook. For the patient, I choose the reclining, and for the operator the sitting position. The pupil being dilated by a strong solution of the extract of belladonna, I narcotize the eye until the bulb remains quiet; then, opening the lids by means of a lid-holder, I place the cataract knife, which I hold as a pen, at right angles on the surface of the cornea, at about one eighth of an inch from its external border, with the knife's edge directed towards the inner (not the outer) canthus, whereby both borders of the wound are made of equal thickness. I then plunge the knife into the cornea, until it reaches the anterior chamber; then holding the instrument at a somewhat obtuse angle, I carry it inwards, making an incision one eighth of an inch in length. The knife is then withdrawn from the wound by carrying it backwards.

"As the wound is small, it gapes open but little, and the aqueous humour flows out very slowly; but, quick as possible, I seize the glass cornea with the pincers, and insert it in the incision, as a button in a button-hole. All this insertion must be done very quickly, for upon the time occupied depends the reaction and disturbance which are to follow. In conclusion, I remove the lid-holder, and glue up both eyes.

"The quantity of aqueous humour that escapes during the operation, is in exact ratio with the disturbance and trouble that follow. When little escapes, the iris is little irritated, and the lens but slightly disturbed. In some instances, I was fortunate enough to lose only two drops of the aqueous humour; these cases healed very quickly, and I

was convinced that neither iris nor lens had been at all disturbed. In those cases where the incision was too large, and did not hold the glass, the operation proved a failure, and I sealed up the eye, allowed the wound to heal, and afterwards operated again with better success."

In regard to some of the sequelæ, he says: "In all cases, there appeared, on the first day, a universal conjunctivitis, and a ceratitis, with some disturbance of the cornea; in several cases, an onyx. The former symptoms disappear quickly; and the abscess of the cornea heals usually in eight to fourteen days, when the glass, inclosed in an exudation, ceases to be objectionable to the cornea. Iritis I have observed only when the operation was so conducted that much aqueous humour was lost, and the lens impinged upon.

"In regard to the appearances in general, my patients seemed as free from pain after the eighth day as before, and the general aspect of the cornea appeared much less disturbed than in those cases where a portion of the cornea was removed (as in transplantation of the cornea). The appearance of the eye is not particularly bad; around the glass there is a small, white, opaque circle, to which extend, from the border of the cornea, one or two small blood-vessels. The eye has no irritability, and no photophobia even to glaring light."

As to the intimate changes which ensue in the tissue of the cornea, from this operation, the author says: "The sections which I have made during the various stages of healing, presented anatomical changes corresponding to the different sequelæ. The perfectly healed cornea I have often observed microscopically. I found the fibres in the vicinity of the glass always more or less troubled, and slightly lengthened; close to the glass, they presented a wave-like aspect, and their usual parallelism was wholly wanting."

The artificial cornea must, of course, be made with great care, and its size and various proportions varied according to the eye to receive it. The author recommends the rock-crystal as the best material out of which this body is to be formed.

These experiments, from their success, have excited no little attention in the locality of their occurrence, and Von Siebold, a name too well known in science to require mention here, and one of the editors of the journal in which this article was published, carefully examined some of the dogs operated upon. He was surprised to find so little disturbance from the foreign body. Indeed, he says, the animal suffered no inconvenience, the secretions of the eye were not diminished or increased, and the animal winked, or otherwise used the organ, as in the natural state. He considered the subject of sufficient importance to have a lithographic plate made of one of these animals, with details of the parts. At all events, the subject is not lacking in ingenuity; and it having been shown that a perforated glass body, of small size, can be introduced in the cornea, and there remain harmlessly—this, certainly, is an important fact learned; but the application of this operation to man can alone determine the visual relations of this body, and the greater or less degree in which its orifice can transmit rays of light for the formation of an image on the retina.

ART. 90.—*Statistics of Operations for Cataract in the General Hospital at Madrid.* By M. A. SAEZ.

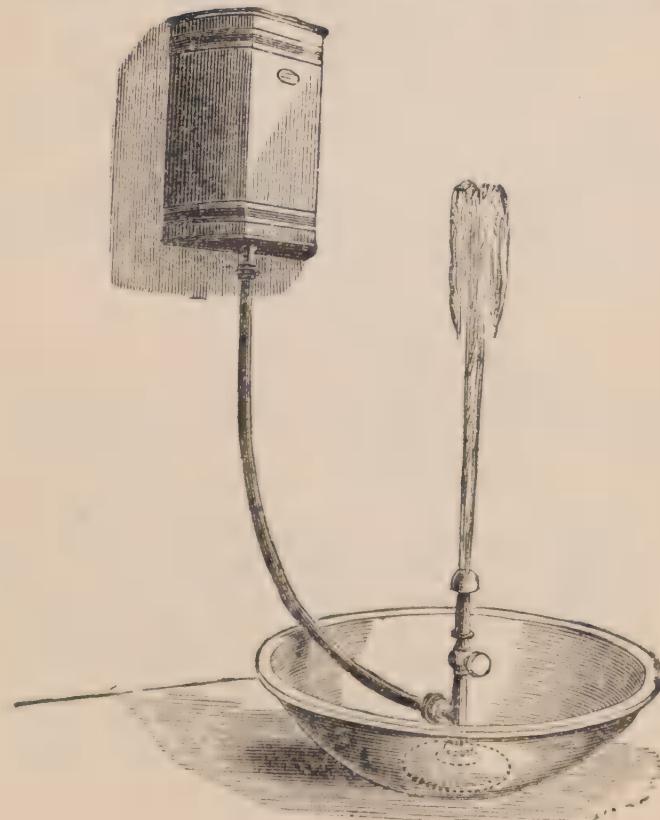
(*Gaz. Hebdomadaire de Méd. et Chir.*, June 23, 1854.)

These statistics specify, in a general manner, that of 525 operations performed between 1838 and 1845, the results were favorable in 441, and unfavorable in 84. In these statistics no information is given as to the kind of operation, and as to some other important points; but one fact is mentioned, which curiously exhibits the influence of surrounding circumstances upon the success of the operation. It is this. In the spring of 1842, there being more patients than usual, the supernumeraries were accommodated in a ward which was cold and damp. During this time 53 cases were under treatment, 37 in the ordinary ward, which was dry and warm, and otherwise convenient, and 16 in the additional ward, which was as has just been described, and with this result. Of the 37 cases, 31 were successful; of the 16, *only* 8. The reason of this great difference, it is said, can only be ascribed to the catarrhal symptoms consequent upon the coldness and dampness of the ward, and very properly so.

ART. 91.—*A new Eye-douche.* By Mr. HAYNES WALTON, Surgeon to the Central London Ophthalmic Hospital.

(*Medical Circular*, Oct. 4, 1854.)

The accompanying engraving will give a clear notion of the simple and ingenious eye-douche which Mr. Walton has introduced into the Central London Ophthalmic Hospital, and into private practice.



It consists of a tin box (capable of holding about six pints of water), to which a ring is attached for suspension. To the bottom of the box is fitted a tube of vulcanized india-rubber, which ends in a little brass stand, surmounted by a stop cock having four holes. The stand is for the purpose of being placed in any reservoir that will receive the water, when the jet is returning from the eye.

It will be found that the peculiarity and modernization consists in the elastic tube and the stand. The apparatus is manufactured by Mr. Cooper, of 26, Oxford Street. The advantages of its construction are, that it supplies a continuous jet by the weight of water, and is therefore independent of valves, or the movement of a piston, and that it is kept in action without any exertion on the part of the patient, and cannot get out of order from disarrangement of machinery. No pumping is required, and the person using it has his hands free.

Of its use, the writer of the hospital reports in the 'Medical Circular,' says:

"It is evident that but part of the value of the eye-douche is to be witnessed among the attendants at an hospital. In them it must be almost confined to the removal of foreign bodies from the eye, and the washing away of purulent and other secretions, as well as of blood after operations; in a word, to cleansing the eye. Its greatest benefit is to be found in inflammatory affections of the eyelids, and of the eyeball, and for which it must be used daily and several times a day. Mr. Haynes Walton assures us, that in private practice he has seen affections resist routine treatment in the hands of several surgeons, and get well under the douche system. Moreover, that he has recommended the douche, with advantage, to literary men and to persons who use their eyes in trades requiring that degree of minute vision that fatigues the eye. To confer the full benefit, therefore, of this remedy to the working man, there must be manufactured an article of a price to suit his means, and this has not been lost sight of by Mr. Cooper, who is contriving an apparatus of cheap materials. We trust that the committee of the Society of Arts, who are directing their attention to the injurious influence of certain trades on the eye, will not lose sight of the remedial value of the eye-douche."

ART. 92.—*On Quasi-malignant Pustule of the Lips and Face.*  
By Dr. PARKER, Professor of Surgery in the New York College of  
Physicians and Surgeons.

Several cases of a peculiar form of inflammation of the lips and face have recently come under Dr. Parker's notice, which resembles somewhat phlegmonous erysipelas, but more strikingly, especially in its commencement, malignant pustule, and, in its subsequent progress, carbuncle. It, however, differs from these affections in some essential particulars, which will be illustrated in the following cases. Dr. Parker writes:

CASE 1.—I first saw this patient on the 18th of last December. He was

a young man, *aet.* 23, merchant, of good character, temperate habits, and in the previous enjoyment of good health. About a week before I visited him, a small pustule made its appearance upon the central portion of the lower lip, just below the edge of the vermillion border. It became painful, had a livid areola, gradually but slowly enlarged, and finally broke and began to discharge. The pain increased, and the swelling extended downwards upon the chin. At my first visit, about this period, the tumefaction had reached as low as the os hyoides, and had extended over the right side of the face to the head; it was hard to the feel, of a livid colour, insensible, and had now much the appearance of a carbuncle. The lips were greatly tumefied, everted; gums swollen, and of the same livid colour; tongue moist; inside of mouth unaffected; ptyalism considerable. The lower lip, about the seat of the original pustule, appeared gangrenous. The pulse was 120, rapid and feeble, respiration unaffected. He was able to get up and sit in the chair, but was suffering from great depression of the vital powers. The course pursued consisted of deep scarifications of the lips, and yeast poultices to the swelling, and stimulants to sustain the general system. The swelling continued to extend, involving successively the neck, face, and finally the head. He died on the following day, the 19th, late in the evening.

**CASE 2.**—I visited, on the 15th of January, a patient, *aet.* 45, merchant, suffering from what appeared to be a carbuncle of the under lip. He was of a good constitution, temperate habits, and in the enjoyment of good health, previously to the present attack. Four days before I saw him, he was supposed to have cut the lower lip slightly, and applied to it arnica. The inflammation commenced at this point, the lip swelled largely, became everted, had a livid colour, was tender, hard, and the seat of a burning pain. At several points there were small sloughy apertures, discharging thin pus. The constitutional symptoms were considerable, but not sufficient to confine him to his room. The treatment consisted of free incision and yeast poultices to the lip, and sustaining remedies for the general system. Portions of the lip sloughed, but he recovered.

**CASE 3.**—Mr. W., *aet.* 26, married, furniture dealer, of good habits, and hitherto perfect health, discovered a small pustule on the under lip near the right angle of the mouth, on the 2d of April. It was tender on pressure, and had a hard base, but attracted no other attention. During the night the disease extended considerably, involving the whole lip and the right side of the face in a hard, livid, and painful swelling. On the evening of the second day his physician first saw him, and found the lip greatly swollen, of a livid colour, and the seat of a burning pain. He scarified the parts for the purpose of local depletion, and also applied leeches. The swelling continued to extend, involving the right side of the neck and face to a great extent. I saw him on the 7th, at 11 a.m. His symptoms were then most unfavorable, pulse 130 per minute, intermittent every seventh or eighth beat, weak and small; respiration rapid, moaning; skin warm and moist; urine free; pupils much dilated; mind clear. He complained of oppression about the chest, and had not been able to obtain sleep. Both lips were involved in the swelling; were hard, livid, and insensible; the whole side of the neck and face was similarly affected, the eye being nearly closed. The frontal vein was livid, red, and prominent, and the veins of the cheek were also visible, as if distended. The treatment consisted of deep scarifications of the lips, and yeast poultices to the part, with anodynes and stimulants. I visited him again at six o'clock, p.m., and found him rapidly failing; treatment of no service. He died the same evening.

**CASE 4.**—I was called, April 10th, to see Miss S., *aet.* 30, occupied as a

governess, of good constitution, whom I found labouring under the same difficulty as in the preceding cases. Her history was almost precisely similar. Five days before, while in the possession of apparently perfect health, she first observed a small pustule on the lower lip, just below the red line of mucous membrane; it was regarded as a small boil, and no attention given to it. On the following day the pustule had enlarged somewhat, was hard, and had a livid areola, but she continued about her employment; she spent a feverish, restless night, and on the next day called her physician. The disease gradually extended, assuming the appearances already noticed, and for two days no danger was apprehended. Her symptoms now became much more unfavorable, and at this period I first saw her. She was lying in bed quite insensible; deglutition difficult; respiration laborious; right side of body paralysed; lips large, everted, and cold; right side of face, neck, and forehead swollen like the lip, hard and purple; right eye protruded; pupils dilated and insensible. On making an incision into the lip, the cellular substance was found filled with small deposits of pus, which were forced out on slight pressure. As she was moribund, treatment was of no avail.

From the history of the foregoing cases it is evident that this disease differs from erysipelas, for which it has in several instances been mistaken, in its origin in a pustule, without a chill or other constitutional disturbance, the hardness of the swelling, its purple or livid colour, insensibility, and absence of much pain. It differs from carbuncle, which in some features it resembles in the class of individuals which it attacks—they being young, temperate, of sound constitution, and in the previous enjoyment of good health—and in its rapidly fatal course. Carbuncle, on the contrary, occurs by preference in persons enfeebled by age or vicious habits. It differs again from true malignant pustule, to which in its origin it seems allied, by attacking persons who have not been affected by poisonous wounds, or who have been liable to the introduction of animal poisons into the system.

“The disease would therefore seem to be peculiar, having many points of resemblance to other similar affections, but still not so closely allied to any one as to warrant its classification under the same head. In every instance which has come under my own observation, the pustule has been seated upon the lower lip, and from this point the inflammation has spread. In a fatal case related to me by a physician, in whose practice it recently occurred, the pustule was seated upon the side of the nose.

“Although the nature and progress of the disease show a vitiated state of the system, in no instance have I been able to trace the attack to the contact of poisonous matter, or its reception into the system in the food or drink. In every instance the patient has been in the enjoyment of good health, and the progress of the disease, though rapid, has excited so little local and general disturbance as not to excite alarm until a short time before its fatal termination. The general symptoms are of a typhoid character, the vital powers being evidently depressed either by the influence of the disease itself, or, which is more probable, the cause upon which the development of the disease depends.

“The late Dr. Peirson, of Salem, Mass., reported (*‘Bost. Med. and Surg. Jour.,’* 1852) several cases very similar to the above, and con-

siders the disease malignant pustule. Among them is the case of Hon. Robert Rantoul, whose disease was thought to be erysipelas, but which Dr. Peirson describes as malignant pustule. The pustule in this instance was situated upon the forehead, and depended upon no known local cause. With but one or two exceptions, the remaining cases in this paper occurred in curriers, and hence Dr. Peirson attributes the disease to inoculation with dead animal matter. Some of them bear a strong resemblance to the cases above related, the disease attacking the lips of healthy young persons, entirely unexposed, and spreading thence upon the face. These can scarcely be classified under the head of malignant pustule, as described by authors. Bayle speaks of a form not depending upon an external cause, but this distinction is not generally received.

"The success of the treatment depends upon the *early* recognition of the true nature of the disease. It is very liable to be mistaken for erysipelas, and a course of treatment adopted accordingly, which avails little in staying its progress. Attention to the points of a differential diagnosis already given, will prevent the practitioner from falling into this error. The treatment best adapted to meet the indications of the case are deep and free scarifications, followed by yeast poultices, or turpentine, the object being to prevent sloughing and to promote healthy suppuration. The general system requires soothing and sustaining remedies, such as are suited to an ataxic condition. The early and prompt employment of these means will afford a fair, and probably the only, hope of success in the treatment of this disease."

ART. 93.—*On the treatment of wounds made in "Plastic Operations" about the Face.* By Mr. SPENCER WELLS.

(*Medical Times and Gazette*, July 8, 1854.)

"In cases of wounds about the face," writes Mr. Wells, "where we wish to procure a very fine cicatrix, and are especially anxious that no traces of the points of suture themselves shall remain, the best plan is, to use alternate common sutures and the twisted suture to be presently described, applying them so close together, that scarcely a line remains between them, and then cover the whole of the knots with collodion. On the following day, or as soon as eight hours after the operation, all the sutures may then be safely removed, for the threads have been so firmly fixed to the skin by the thick covering of collodion, that they form a sufficient support to the wound, and keep the edges in perfect apposition. The pins are first withdrawn carefully, substituting a narrow strip of plaster for each. Then the common sutures are cut and removed successively, their place being also supplied by strips of plaster. This being done, a layer of collodion is covered over all. In this way, after removal of all the sutures, the wound has a perfectly firm, equally compressing dressing, which, after eight or ten days, loosens spontaneously, and leaves a cicatrix which is almost imperceptible. We entirely avoid, by this plan (for which I am indebted to Professor Langenbeck), phlegmonous inflammation of the integument, which might be set up by a longer continuance of

the sutures. But it must not be adopted when the wounds are in parts subject to unavoidable disturbance by movement, as in the alæ nasi, the upper lip, angle of the mouth, &c.; because the layer of collodion might be loosened by the movements; nor after plastic operations in males, where portions of skin covered by a growing beard are united, because the beard growing raises up the layer of collodion. For these useful hints I am also indebted to Professor Langenbeck."

ART. 94.—*On the nature of Ranula.* By Dr. C. O. WEBER.

(*Virchow's Archiv*, Bd. vi, Ht. 2, 1854.)

Arguing from two cases of ranula, occurring in the Surgical Clinique, at Bonn, Dr. C. O. Weber concludes that this disease is not a dilatation of a salivary duct, but an enlarged synovial sac. This sac he considers to be that which was first described by Fleischmann, in a thesis, published at Nuremberg, in 1841, "de novis sub lingua bursis;" and the existence of which has been subsequently confirmed by Froriep. This sac lies immediately under the mucous membrane, close to the frænum linguæ. Dr. Weber arrives at this conclusion, from the fact, that the fluid contained in the ranula, in his two cases, did not contain the characteristic elements of saliva, namely ptyalin and sulpho-cyanate of potash; and also from the fact, that the sac did not contain those anatomical elements which would have been present, if it had been an enlarged salivary duct.

ART. 95.—*Fatty pendulous Tumour of the Pharynx and Larynx.*

By Mr. HOLT, Sen. Surgeon to the Westminster Hospital.

(*Pathological Transactions*, vol. v, 1854.)

This case possesses much interest; first, from its rarity and the large size of the tumour; secondly, from the imperfect closure of the glottis, as a consequence of the altered position of the epiglottis, by which alteration frequent opportunities for the introduction of foreign substances were afforded; and thirdly, from the fact that there was no permanent dyspnoea or alteration of the voice.

CASE.—J. A., æt. 80, a robust man of active habit, was under the care of Messrs. Randolph and Rust, of Westminster, to whom Mr. Holt was indebted for the opportunity of exhibiting the specimen. About twelve years since, the patient's attention was directed to his throat, from an occasional, but then increasing, sensation of choking, of no material moment when he was calm, but becoming urgent upon excitement; this gradually became more frequent, and he was aware of some swelling, or slight bulging, at the upper part of the throat. About four years prior to his decease, during the act of vomiting, a large mass became protruded, and to prevent immediate suffocation he was compelled to return it as speedily as possible. He was at all times better able to swallow solids than fluids, for as his powers of mastication were not good, he took the precaution of cutting his food into very small pieces. In swallowing fluids he occasionally experienced great difficulty and choking, but latterly, from taking everything very slowly, he was comparatively com-

fortable. His voice was husky, but occasionally distinct, more especially if perfectly calm; but when excited, it became gurgling and inarticulate. He died suddenly while smoking his pipe, and it is conjectured (there not being any person present), that the fumes of the tobacco produced sudden cough and displacement of the growth, by which immediate suffocation ensued. Upon a *post-mortem* examination, the viscera generally were found in a healthy state, and there was nothing to account for immediate dissolution beyond the presence of the tumour and its attachments. Upon examining the pharynx, a large, pendulous, fatty tumour was detected, filling the pharynx, and extending downwards towards the oesophagus to the extent of nine inches. It was attached by an envelope of mucous membrane and fibrous tissue to the left side of the epiglottis, dragging it downwards and to the left side, so as entirely to prevent perfect closure of the larynx; it was also connected with the upper part of the pharynx; but, with these exceptions, it hung perfectly loose in the pharynx and oesophagus. Several fatty tumours of small size were noticed in the neighbourhood.

**ART. 96.—*Removal of a large fibrous Tumour from the Neck, by "Morcellement."*** By M. MAISONNEUVE.

(*L'Union Médicale*; and *Medical Times and Gazette*, Sept. 9, 1854.)

By the employment of the method which he calls "*morcellement*," i. e. division into pieces, M. Maisonneuve has accomplished the removal of an enormous tumour from the neck of a woman, who had in vain solicited other surgeons to undertake her case.

**CASE.**—The patient's age was 35. The tumour had been growing for more than two years, and latterly had become so large as to render respiration difficult. It occupied the whole left side of the neck, extending vertically from the mastoid process to below the clavicle, and transversely from the spinous processes of the vertebræ to behind the larynx and trachea, which were strongly pushed to the right side. Its surface was slightly nodulated, and it had the firm, resistant character of fibrous tissue. It was not moveable on the deep-seated textures, but the skin glided easily over its surface. The patient suffered no pain, even when the tumour was pressed upon, neither was there any pain or numbness in the left arm.

M. Maisonneuve concluded that it was a fibrous tumour attached to the transverse processes of the vertebræ, and determined to attempt its removal. This he accomplished after a long and laborious dissection, in the course of which the carotid artery, internal jugular vein, and pneumogastric nerve were exposed, as well as the cervical and brachial plexuses of nerves. It was found necessary to divide the tumour first into two equal portions, and then to halve the upper portion. By this means the removal of the mass was greatly facilitated, and the numerous vessels and nerves which passed through the tumour were preserved from injury. Portions of the scaleni and of other muscles which had become entangled in the substance of the tumour, were, however, unavoidably removed.

The operation was attended with but slight loss of blood, and was completed in three-quarters of an hour, during the whole of which the patient was kept under the influence of chloroform.

The wound left by the operation was enormous. At the bottom of it the last six cervical vertebræ, the first rib, the cervical and brachial plexuses, the carotid and subclavian arteries, the internal jugular vein, pneumogastric nerve,

trachea and œsophagus, larynx and pharynx, were exposed to view. However, by the skilful application of dressings, and the judicious employment of pressure, in three days four fifths of this extensive wound had closed in, and that which remained open was covered with healthy granulations. The patient was quite well by the end of a month. All the deranged structures had recovered their natural position, nor had she received the least apparent injury from the operation.

The tumour was of a purely fibrous nature, and weighed nearly eight pounds.

(c) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 97.—*On lateral curvature of the Spine, to illustrate a new instrument.*  
By Mr. BRODHURST, Assistant-Surgeon to the Orthopædic Hospital.

(*Medico-Chir. Transactions*, vol. xxxvii, 1854.)

Mr. Brodhurst considers that lateral curvature depends—1stly, upon hypertrophy of muscles; 2dly, upon atrophy of muscles; 3dly, upon spasm of muscles; 4thly, upon relaxation and extension of the intervertebral ligaments; 5thly, upon rachitis; 6thly, upon difference of length in the lower extremities; 7thly, upon difference of capacity in the two sides of the chest; 8thly, upon congenital defects. He believes that in most cases a consecutive inclination of the vertebral column succeeds to the primary curve, and he argues, that for the cure of the deformity mechanical means must be especially applied to the latter. After describing the changes in form which may ultimately affect the parts involved in the distortion, he proceeds to argue that pressure should not be applied to the convexity of the curve, but that that extending force should act on the concavity, by which the arch would be, as it were, unfolded. The instrument which he recommends consists of a band fixed to the pelvis, of crutches passing from the pelvic band to the axilla, of a connecting-piece which unites the crutches, and which is placed at the superior extremity of the primary curve, the whole forming a framework to support the trunk. On this last-mentioned backpiece a lever moves on its axis, connected below to the pelvic band by a screw. The lever rises to the top of the shoulder, which is opposed to the primary curve; it is there joined to a shoulder-sling, which is moulded in gutta percha. A pad having the shape of the convexity of the primary curve is attached by a short arm, with an antero-posterior movement, to the lever. The use of the instrument is illustrated by drawings.

ART. 98.—*Case of distortion of the Spine, with observations on rotation of the vertebrae as a complication of lateral curvature.* By THOMAS HODGKIN, M.D., L.R.C.P., and WILLIAM ADAMS, F.R.C.S., Assistant-Surgeon to the Royal Orthopædic Hospital, &c.

(*Medico-Chir. Transactions*, vol. xxxvii, 1854.)

This paper is based upon the post-mortem examination of the late Dr. Gideon Mantell, the celebrated geologist, who died on the 10th

Nov., 1852. Ten years previous to his death, being then 48 years of age, he suffered from excessive pain in the back, inducing him to apply an opiate liniment and leeches. He had undergone great fatigue in attendance upon surgical cases requiring a stooping position during upwards of two hours daily. He was also thrown from his carriage, by which his back was hurt, and besides this, he was on one occasion exposed to intense cold at night. Paralysis of the lower extremities with great pain, retention of urine, and want of control of the rectum soon took place. After many weeks, voluntary power slowly returned ; sensation followed with intense neuralgia. A tumour, which increased rapidly, was observed in the left lumbar region ; and Dr. Mantell sought the advice of many of the leading members of the profession, including Liston, Brodie, Bright, Lawrence, Stanley, Coulson, Hodgkin, &c. The general opinion, especially at the earlier period, seems to have been that the tumour was a lumbar abscess connected with disease of the spine ; fluctuation is said to have been distinct, and one of the surgeons consulted proposed to open it. The fact, however, that the supposed lumbar abscess made no progress after the lapse of a considerable time, from one to two years, threw considerable doubt and obscurity over the case. An indistinctly lobulated character (found at the post-mortem examination to be due to the transverse processes of the lumbar vertebrae projecting posteriorly) was noticed, and once led to the suspicion of a malignant tumour in connexion with the bodies of the vertebrae, an idea what the subsequent progress of the case wholly removed. The tumour became slowly harder, and the abdominal aorta was pushed forward. The neuralgic pains by degrees became less frequent, but his health was broken up.

To relieve intense suffering, he sometimes resorted to anodynes, but it does not appear that he ever prescribed large doses for himself. On the last occasion, a dose of this kind, which is believed to have been taken on an empty stomach, produced symptoms of narcotic poisoning, which proved fatal.

He left a written request that Dr. Hodgkin should make a post-mortem examination of his body, and that any specimen of interest should be removed for scientific purposes, and afterwards deposited in the museum of the Royal College of Surgeons. Mr. W. Adams' assistance was requested by Dr. Hodgkin, and a minute account of the portion of the spinal column removed is furnished by him, together with some general observations on the nature of the affection, in which Dr. Hodgkin concurs.

The body did not present any remarkable external appearance, beyond a slight fulness in the left lumbar region. On dissection, no morbid appearance presented itself in the soft tissues in this region ; the sub-cutaneous cellular tissue, fat, muscles, &c., were quite healthy. There was no trace of any morbid growth, cyst or abscess, or of any inflammatory process, having existed in the neighbourhood. The only abnormal condition found, was a very remarkable form of distortion of the spine in the lumbar region, which in its anterior aspect presented the appearance of a very severe degree of lateral curvature to the left side, whilst posteriorly, the apices of the spinous processes deviated so slightly from their vertical position with respect to each

other, that no lateral curvature was apparent, and from measurement of the specimen removed probably did not extend to more than a quarter of an inch.

"The deformity of the spine cannot, however, be correctly described as a lateral curvature; for the bodies of the first, second, third, and fourth lumbar vertebræ are also rotated in a horizontal or transverse plane towards the left side, so that the anterior surfaces of the bodies of the second and third vertebræ have a lateral, rather than an anterior aspect. The rotation in these vertebræ, extends to very nearly  $45^{\circ}$  from the median plane, the centre of motion corresponding to the apices of the spinous processes, which have therefore preserved their normal position." As a necessary result of this movement, the transverse processes of the first three lumbar vertebræ on the left side projected backwards towards the skin at a corresponding angle, and rose exactly to the level of the apices of the spinous processes, whilst the transverse processes of the same vertebræ on the right side were depressed, or sunk inwards, towards the abdominal cavity. A vertical section through the bodies of the vertebræ shewed the absence of any destructive disease either in the bones or cartilages; but lateral absorption of the bodies of the vertebræ, and to a greater extent of the intervertebral cartilages, had taken place, from unequal pressure, in the concavity of the curve. The articular processes, which had evidently been subject to a very severe amount of irregular pressure and strain, had become much altered in form, and considerably enlarged by the growth of new bone, principally at the margins of the articular surfaces, which have thus been retained in contact, though the articular aspects, or direction of their facets, were very materially altered, so as to permit the transverse rotation movement above described. The process by which this enlargement has taken place, Mr. W. Adams considers to be similar to that by which the enlargement of the articular extremities of bones has been shown by him to take place in chronic rheumatic arthritis.

One peculiarity of the case, as an example of a single curvature in the lumbar region, was the absence of a compensating curvature in the dorsal region; but this was explained by the fact that the last two lumbar vertebræ, and their cartilages, together with the sacrum, formed a sharp curve in the opposite direction, viz., to the right side, chiefly due, like the larger curve, to the lateral absorption of the cartilages, the last two of which were diminished a quarter of an inch on the left side. Thus, a vertical line drawn through the centre of the tenth dorsal vertebra, passed very nearly through the centre of the sacrum.

The pain, which is said to have been at times very intense, is supposed to have depended upon the irregular strain and pressure upon the articular processes inducing the structural alterations above described, rather than direct pressure upon the spinal nerves; the spinal canal was not laid open, because so doing would have destroyed the value of the specimen as one of very remarkable deformity. The tumour, which excited so much attention during life, must have depended essentially upon the protrusion of the lumbar muscles by the posterior projection of the transverse processes of the lumbar vertebræ, though from the variations of size it was said to have undergone, it

appears probable that this was occasionally increased by infiltration of the superficial tissues, under the influence of the intense neuralgic pain described; as we see in the swollen face under similar conditions. It is certainly impossible that an abscess of any considerable size could have formed and disappeared without leaving some visible traces behind it.

"The fact," Mr. Adams observes, "of the greatest practical importance, which this specimen illustrates, and clearly proves, is one which I believe has not hitherto been described, viz., that a very severe degree of lateral curvature of the spine, with transverse rotation of the bodies of the vertebræ, accompanied with lateral absorption of the bones and intervertebral cartilages to a considerable extent, and attended with all the distressing symptoms of the most aggravated form of this affection, may exist, with only a very slight lateral deviation of the apices of the spinous processes; in short, that the severest degree of deformity of the spine may exist internally without the usual indications in respect of the deviation of the spinous processes externally. When it is borne in mind that all surgeons are in the habit of relying upon the relative position of the apices of the spinous processes to the median line, as an index to the existence or non-existence of lateral curvature, the importance of the fact above described cannot be over-estimated in the diagnosis of this affection. In this particular case, it does not appear that any of the very eminent physicians and surgeons who examined Dr. Mantell suspected the existence of lateral curvature of the spine; the hard nodules felt in the lumbar region, and once supposed to be the lobules of a tumour connected with the bodies of the vertebræ, were not at any time recognised as the transverse processes of the vertebræ. This can hardly be matter of surprise, when it is remembered, that it was the only positive symptom taken in conjunction with the general aspect and inclination of the body, if any permanent defect of symmetry existed, by which the affection could have been diagnosed, and up to the present time such a condition has not been described as diagnostic by any authority on curvature of the spine. A careful study of the present case will, however, enable us to diagnose a similar condition in a like case, with as much certainty as if the ordinary indications were present."

The condition of transverse rotation of the vertebræ, the centre of motion corresponding to the apices of the spinous processes, appears to have been observed by the late Dr. Dods of Bath, who, in the year 1824, published a work entitled 'Pathological Observations on the rotated or contorted Spine, commonly called Lateral Curvature,' but it was only observed in the lumbar region in cases of obvious deformity in the dorsal region, for which he was consulted. No difficulty of diagnosis therefore existed, and it does not appear that its value in this respect occurred to him; he mentions the fact only in confirmation of his erroneous theory, that what he calls the deceptive appearance of lateral curvature depends upon the profile view of the natural flexures of the spine being brought into view posteriorly by a rotation movement.

M. Jules Guérin appears to have noticed the disproportion between the internal and external curvatures in many cases, and particularly

recognises the influence of transverse rotation ; but he does not mention any case at all analogous to Dr. Mantell's, and no diagnostic value is attached to the effects of rotation, viz., posterior projection of the transverse processes in the lumbar region, and of the angles of the ribs in the dorsal region, with respect to the existence of internal curvature, where the apices of the spinous processes have not deviated externally.

English writers have alluded to rotation only as a passing observation, without attaching any practical importance to it, and by several of the principal authorities of the present day it is altogether omitted ; there can be no doubt, however, of its frequent occurrence both in slight and severe cases of lateral curvature, and when it exists it constitutes one of the chief difficulties of treatment. All the instruments at present so generally used, which make direct lateral pressure on the convexity of the curve, must tend to increase the mischief, though, by their effect in flattening the ribs, this result may not at first sight be apparent.

ART. 99.—*Simulated or “Phantom” Tumours in the Abdomen.*  
By Mr. ——.

(*Medical Times and Gazette*, Sept. 30, 1854.)

The following interesting remarks are made upon certain cases under the care of Drs. Addison and Gull. They occur in the weekly report of “The London Practice of Medicine and Surgery.”

Among the circumstances which combine to make the investigation and diagnosis of abdominal tumours difficult, is the existence of a class in which the symptoms are so changeable that it becomes almost impossible to decide whether or not any tumour does exist. The signs are present one day, entirely absent on another, then present again, in a most perplexing manner. Every practitioner of experience must have met with such puzzling cases ; but to those who have not, it would be impossible to convey any idea of the degree to which they sometimes simulate real tumours. Dr. Bright, in his papers on Abdominal Tumours, in the Guy's Hospital Reports,\* mentions a case in which, in an hysterical woman, the surgeon had been induced to attempt ovariotomy, believing that an ovarian cyst was present. The incision having been made, no tumour whatever could be found, and the operator was obliged to desist. The woman fortunately recovered, and the tumour at a subsequent period again made its appearance.

One of the earliest allusions to this deceptive class of cases was, we believe, by Dr. Bright ;† and in the wards of Guy's Hospital they have since been the subject of much investigation. Our own knowledge of them has been chiefly derived from the clinical observations of Drs. Addison and Gull, under whose care several very instructive cases have occurred during the last few years. To the latter gentleman it is, we believe, that the affection is indebted for its very appropriate name of “phantom tumour.” We shall attempt, in the following

\* Guy's Hospital Reports, No. VI, p. 257.

† Loc. cit.

sentences a short summary of such facts as have been made out respecting them, but shall not occupy space with the details of cases, as the disease is one in which the prominent symptoms, from being essentially unreal, are interesting rather to the manipulator at the bed-side than to the reader of notes. Dr. Bright's allusion to the subject, to which we have referred, is as follows. In speaking of reported cases of disappearance of ovarian cysts, that experienced physician states:—"It is even possible that a certain number of these cases may be set down as instances of erroneous diagnosis; for there is no question that the diagnosis is not always obvious. There is one class of cases more particularly liable to lead the unwary and inexperienced into error respecting the disappearance of an abdominal tumour—I mean cases of hysterical distension of the bowels; for, although the swelling in these cases is essentially tympanitic, yet occasionally, from the singular way in which the intestines are partially distended, and remain so for days and weeks at a time, they sometimes give completely the forms of tumours; and sometimes even indistinct fluctuation may arise from fluid fæces, or even from the co-existence of a distended bladder; and sometimes the large accumulation of hardened fæces has led to a belief of a more solid tumour." To state them *seriatim*, we have then the following, as the chief conditions on which these variable tumours may depend. 1. Distension of the bladder. 2. Solid fæcal accumulations. 3. Irregular contractions of the intestine at two points, and distension of the intervening portion, with flatus or with fluid fæces. 4. Spasmodic rigidity of a part of the abdominal parietes. It may, perhaps, seem almost superfluous to add the last, but practically, it is one of the most frequent sources of deception. An hysterical patient is quite capable of making a circumscribed portion of the abdominal wall rigid and hard, while the rest remains comparatively flaccid; and even in a person of calm nervous system the same condition may be produced by an instinctive reflex act, for the protection of a part of the belly which is tender on pressure. The recti muscles are peculiarly apt to be the seat of these contractions, which may, however, also occur in the lateral regions of the abdomen. It is rare, perhaps, for any one of the above-mentioned causes to exist singly and uncomplicated by any of the others. Neither of the first two, indeed, unless exaggerated by one or other of the latter could properly rank as a "phantom" tumour. Hardened masses of fæces are probably, however, the most frequent of the exciting causes of the affection. By the irritation produced by their lodgment, the intestines are made to contract irregularly, and local tenderness is also induced, which latter, in its turn, acts as an excitant, in producing reflex rigidity of a part of the abdominal parietes. It has been observed of phantom tumours, that they are much more frequent on the right than the left side, and that not rarely there are present in connexion with them indications of renal irritation. Both of these circumstances are probably to be explained by reference to the facilities afforded by the cæcum as ascending colon for the delay and accumulation of scybalous fæces. The period of early adult life would appear to be the one most liable to the development of this chain of symptoms. The simulated tumour in question is by no means met

with only in the female sex, some of the most marked examples of it that we have seen having been in young men. As it regards treatment, that should of course be modified according to the peculiar circumstances of the case. A brisk purgative will probably be a remedy almost always useful, and afterwards a course of nervine tonics, or perhaps of anti-spasmodics, may be exhibited with benefit. The chief importance of the cases is in the lesson they convey as to the necessity for great caution before pronouncing positively as to the existence of an abdominal tumour. The surgeon should always be content, in doubtful cases, to examine his patient, on several separate occasions, before venturing an opinion. In most cases, probably, the careful employment of percussion and palpation will be competent to decide the question correctly; but if there be the least doubt remaining, the diagnosis should be deferred until, after the free action of a purgative, a second examination has been instituted.

We have introduced the above remarks among the examples of tumours resulting from accumulation of inflammatory products, because it is for such that these fictitious enlargements will generally be mistaken. Cases of typhlitis are perhaps those with which, more especially, they are likely to be confounded, and, next to them, tumours springing from the kidney or abscesses in that organ.

ART. 100.—*Gastrotomy performed in a case of Cancerous Stricture of the Oesophagus.* By Dr. E. FENGER, Surgeon-in-Chief to the Freidrich's Hospital, Copenhagen.

(*Virchow's Arch. für Path. Anat.*, vol. vi; *Medical Times and Gazette*, June 17, 1854.)

The operation of gastrotomy, as performed by M. Sedillot, of Strasburg, has been lately repeated by the Danish Professor, Dr. E. Fenger. As in the first cases, the operation failed to preserve the life of the patient, and the profession must decide as to the fact of its propriety.

CASE.—A man, æt. 55, of good constitution, was admitted into the Freidrich's Hospital, Copenhagen, Jan. 10, 1853. Habitually in good health, he had experienced, especially after eating rapidly, attacks of vomiting, attended with a slight flow of blood; but for the last two or three years the blood had ceased to appear upon the voided matter. From this time he had suffered less, feeling only during his work occasional sharp pains in the epigastric region, nausea accompanied by an acid taste, and rarely attacks of sickness. He had once drunk freely of spirits, and nine months ago had been treated for delirium tremens; his limbs were still tremulous. A fortnight before his admission the patient began to feel a fixed pain in deglutition, which he referred to the pit of the stomach, where there seemed to exist an obstacle difficult to be overcome. For the last five days he has been able to swallow only fluid aliment. The abdomen was distended superiorly, and sonorous upon percussion, except at the upper part, where there was evident dulness. A sound, introduced into the oesophagus, was stopped at about eight inches distance from the dental arch by some obstacle which could not be removed, and the attempt excited pain and the desire to vomit.

M. Fenger, after repeated trials at dilatation, performed, at the desire of the patient, who was made acquainted with the dangers of the proceeding, the following operation, March 23:—An enema having been previously administered, the patient was rendered insensible by the action of chloroform. An incision was then made, commencing at the lower border of the ensiform cartilage, and extending downwards, outwards, and to the left, by the border of the costal cartilages, to the outer border of the rectus muscle. The skin, aponeurosis, and muscles, were divided; the epigastric artery was cut through and tied. The peritoneum was next divided, and the left lobe of the liver was felt. The index and middle fingers of the operator, introduced through the wound, touched the diaphragm, the spleen, and, lastly, the stomach. Its anterior surface was seized and dragged to the wound, where it was secured by needles and ligature. The front of the stomach was then opened with care, and the mucous membrane fixed to the exterior; half a cup of mucilaginous liquid was introduced by means of a glass tube, the wound simply covered, and the patient put to bed. During the day he had some attacks of colic, but he slept well. On the morning of the 25th he had a sensation of hunger; pulse 104. Some greenish fluid flowed from the stomach. Towards mid-day the countenance altered, and he died, 58 hours after the operation.

*Autopsy.*—There were no traces of peritonitis; near the spleen there was a small quantity of thick brown fluid. The mucous membrane of the stomach was natural. A cancerous tumour occupied the lower part of the oesophagus. There was no disease in other organs.

#### ART. 101.—*A successful case of Artificial Anus.* By M. JOEL.

(*Rév. Méd. Chir. de Paris*, June, 1854.)

This case is interesting for its rarity, for its successful issue, and for the remarkable length of time that the obstruction had lasted prior to the operation—namely 82 days.

**CASE.**—Mme. Monuard, æt. 46, of a nervous and irritable habit, and subject for many years to a small indolent hernia in the linea alba above the umbilicus. She was quite well up to the 5th of July, 1853, when she complained of a dragging sensation in the abdomen. During the next three or four days this pain continued and increased, the alvine evacuations were suspended, and the abdomen became tympanitic, but she did not seek medical advice until the 16th. The treatment adopted consisted of an emetic, with general and local bleeding, tepid baths, and assafoetida enemata. After the emetic the stomach continued to reject everything which was put into it. On the 21st, four drops of croton oil were given, but without effect. M. Joel saw her for the first time on the 22d. His treatment consisted of mercurial and belladonna frictions to the abdomen, with repeated small doses of mercury, and repeated purgative enemata. Small doses of strychnia were also tried. The effect of the enemata was to wash out the rectum and lower part of the colon, and to bring away some small fragments of stercoraceous matter, but they procured no proper alvine evacuation. The vomitings continued up to the 42d day, the vomited matter being sometimes bilious, but never faecal, when they ceased, and the patient was able to retain small quantities of food. They returned, however, on the 50th day. During the following month

matters grew worse and worse every day, the vomiting continuing, and the patient being greatly emaciated and desponding. Her abdomen was not very tender on pressure, but it was greatly distended with flatus, and this distension gave rise to much pain and difficulty in breathing. The bowels had never acted once during the whole of this time. Under these circumstances M. Joel decided upon opening the small intestine, after the plan proposed by M. Maisonneuve, the position of some eschars preventing him from opening the descending colon. This was on the 82d day of the retention of the faeces. The incision was on the right side, a little in advance of the iliac spine, and in the direction of Poupart's ligament, and, the intestine having been opened, the edges of the openings were secured to the external wound. The rest of the account is very concise. It merely says that the patient recovered without any impediment, and that a few months sufficed to re-establish her in all the appearances of good health, except that the artificial anus still continued to do duty for the natural opening. No opinion is expressed as to the nature of the obstruction, but, from an incidental remark, it does not appear to have been caused by the hernia, which was mentioned at the beginning of the case.

The account terminates by stating that animal food, milk, and bread, were digested completely, and that no trace of them could be detected in the matters passed from the artificial opening, but, that it was not so with legumes, carrots, cabbage, potatoes, and especially raw apples.

#### ART. 102.—*A curious Case.* By Dr. NICHOLLS.

(*Dublin Medical Press*, Oct. 4, 1854.)

Dr. Nicholls relates the case as an instance of the length of time to which a patient may survive after very serious injury. He writes:

**CASE.**—On Sunday, the 20th of August, at 9 a.m., I was sent for to see Daniel Cashen, æt. 69, a patient in the Longford Workhouse infirmary. On arriving, I found that this old man, during the absence of the ward attendant for the breakfasts (three bed-ridden old men with Cashen being then the only occupants of the ward), had left his bed, and went to the fire with a rug around him. After a short time, the attention of the other old men was aroused by the smell and noise of something frying. Supposing from the smoke that the rug or his shirt had become ignited, and that he was burning, they gave the alarm. The nurse and ward attendant having arrived, it was found he had passed a hot poker into his belly. On examination, I found, directly above, and about one inch and a half from the umbilicus, a hole about an inch in diameter, quite plugged up with omentum.

Satisfied that it would be futile to expect the charred edges of the wound to unite, and that attempting to return the omentum might be more injurious than beneficial, I covered the injured parts with lint wet with turpentine, put on suitable bandages, and ordered an anodyne mixture, a spoonful occasionally. When the charred portions of the omentum and abdomen commenced sloughing, the stench became most offensive. I then had liniment calcis, with creasote, applied with good effect. At the end of a week the slough became detached, and the wound, now the size of a half-crown, presented an erysipelatous appearance. I then substituted ungt. hydr. as a dressing, which was continued for three days. The inflammatory appearance

having subsided, I applied wide and long strips of adhesive plaster above and below the wound, with the view of promoting the contraction of the orifice and retraction of the omentum. Over the wound I applied lint with liniment. calcis. His food consisted of milk with a little bread and tea. I gave no aperients, as I considered the less the bowels were disturbed the better. In this way he progressed favorably for twenty-one days, so much so, that I was congratulating myself on the prospect of his ultimate recovery, the wound being reduced to the size of a sixpence, closed by a small button of omentum.

At 7 a.m. on the 11th of September, the twenty-second day after the burn, I was again called to visit him. On arriving, I found him apparently dying; there was a large quantity of blood on the floor, and the bed and bedding all bloody. On examining him, I found a large quantity of omentum protruding from the wound, and blood still oozing. His hands all smeared with blood. The patients in the ward stated that the nurse had been, as usual since he burned himself, in to see him during the night, that the ward attendant had a candle lighted, and sat up with him until coming on day, when he went to bed for an hour, and on getting up at six, found him as described, he (Cashen) having in the mean time removed the bandages and adhesive plaster, and inflicted further injury on himself. He was so exhausted I could not venture to have him removed to another bed, but had him made as comfortable as possible where he was. Whilst the nurse and ward attendant were arranging him, I observed something between the pallet and wall, which on examination I found to be a piece of detached omentum about the extent of my hand, and a portion of the colon, thirty-two inches long, also quite detached. I again applied turpentine, and administered restoratives. I had no expectation that he could make any attempt to rally, yet strange to say he did, and lingered until 10 a.m. on the 19th instant, when he ceased to exist, having survived the second injury eight, and the primary one thirty days.

ART. 103.—*Transfixure of the Body by a Bayonet, without Symptoms.*  
By Mr. GALLWEY, Surgeon in the Royal Artillery.

(*Medical Times and Gazette*, May 6, 1854.)

“A gunner and driver of the royal artillery had made a murderous attack upon his sergeant with a bayonet, whereby he inflicted two wounds, happily superficial only, upon one leg and arm. Foiled in his efforts of greater success by the seasonable arrival of some other soldiers, the culprit rushed through the barrack-square to escape his pursuers, when the sentry on duty at the gate interposed himself with his carbine, in the attitude of “charge bayonets,” to obstruct him. The consequence of this movement to the other was, that, as he was rushing through a narrow passage with an impetus which he could not in time control, he threw himself (not premeditatedly, it will be understood) with great force upon the bayonet of the sentry, which entered his body an inch to the left of the ensiform cartilage, and, passing through the abdomen, emerged by its point on the left of and close to the spinal column some inches lower down.

“When I reached the scene of action, within two minutes after, I found the subject of this wound sitting up on a form in the guard-room, as insensible to any effects from the injury as he was unconcerned at his crime. I could not, therefore, at first believe the

statement of his comrades who told me what had happened, although the bayonet was handed to me *bent* by the violence to which it had been exposed; but, on stripping the wounded man, I discovered the two openings of entrance and exit of the bayonet, corresponding, in form and diameter, to those which the different parts of the weapon would have occasioned. Added to this, the bayonet was withdrawn from his body by a non-commissioned officer, upon whose testimony I could rely; and, what is more, this withdrawal of it was witnessed by a crowd of other soldiers around.

“Now, this desperate character marched, in a quarter of an hour afterwards, to the hospital, three quarters of a mile distant; and, at the end of a fortnight, was discharged from the same, to be placed upon trial for his life. The day after his admission, his urine was a little bloody; and, subsequently, there was a general anæsthesia of the walls of the thorax and abdomen, which lasted but for a while. With these exceptions, the injury was not followed by a symptom, nor did the subject of it require a dose of medicine for his recovery.

“To the circumstance of the affray having been enacted *before* dinner, I am disposed to attribute much of the immunity from evil which this ruffian enjoyed. Had the stomach been full, it is not easy to conceive that a bayonet could have travelled through such a track of vital organs, without endangering one or more. The reader may be interested to know that the life of this soldier was spared, transportation for the rest of his days being the sentence of his court-martial.”

#### ART. 104.—*The radical cure of Hernia by Iodine Injections.* By M. JOBERT.

(*Gaz. des Hôpitaux*; and *Medical Times and Gazette*, Sept., 1854.)

M. Jobert has presented to the Academy an account of three cases of inguinal hernia which were radically cured by injection of the tincture of iodine into the hernial sac.

The first case was that of a young man, *aet.* 18, who was affected with a complete inguinal hernia of the left side. It did not, however, descend to the bottom of the scrotum, and below was separated from the testicle by an elongated constriction. The bowel was readily reducible by the taxis, but immediately the patient coughed or stood on his feet it was again extruded. The patient stated, that his disorder in no way interfered with his ordinary occupations, but he was extremely desirous to be completely cured of it, as he was judged unfit for military service in consequence of its existence.

In compliance with the patient’s wishes, M. Jobert determined to accomplish, if possible, a radical cure by injecting the tincture of iodine. On the 12th of May, therefore, having made an incision over the inguinal canal, he introduced a fine trocar, and injected through it 5 drachms of pure tincture of iodine. The patient suffered some little pain in consequence of the proceeding, and upon its completion, the wound was united by the twisted suture, and dressed with simple ointment. In the evening, there was slight swelling in the inguinal region, but no constitutional disturbance.

On the 14th, the swelling and redness were considerable, and, on removing the sutures, the wound was found imperfectly united. After some days,

however, the redness and swelling disappeared, and cicatrization was accomplished. On the 5th of June the patient left his bed, walked about, and coughed without causing the least unnatural impulse of the abdominal viscera, or the slightest reappearance of an external tumour. The left testicle (that on the affected side) remained of the same size as the right. He was directed to wear a suspensory bandage for some time, as a precautionary measure.

In the second case, the patient, æt. 33, was admitted into Hôtel-Dieu on the 18th of November, 1853, with a hydrocele and a congenital inguinal hernia of the same side, and the two swellings being separated from each other by a kind of hour-glass contraction of the tunica vaginalis, the upper part of the sac being occupied with intestine, and the lower with serous fluid and the testicle. M. Jobert resolved, if possible, to obliterate the tunica vaginalis, and so to cure at the same time both the hernia and the hydrocele. With this view, having first interrupted the communication between the tunica vaginalis and the peritoneum by means of pressure applied to the inguinal canal, he passed a trocar into the lower portion of the constricted sac, and, after having let out the contents of the hydrocele, injected a small quantity of the pure tincture of iodine. On the following day the scrotum was red and slightly tender, and the affected tunica vaginalis distended with effusion of serum. The patient, however, manifested no constitutional disturbance, and complained of no pain. Day by day the swelling and redness diminished, and within seventeen days after the operation the scrotum had regained its ordinary dimensions; but, on the affected side, both it and the spermatic cord were firmer than natural. A cylindrical cord existed through the whole of the inguinal canal, and extended along the course of the spermatic vessels to the testicle. A complete cure was obtained, and the patient left the hospital, able to walk without fatigue, and exhibiting no reappearance of the hernia, in whatever position he occupied. No serious local inflammation, nor any constitutional disorder resulted from the injection.

The third case was that of a congenital hernia of the left side, quite reducible, and equal in size to a large pear. The patient was twenty-seven years of age, and had been ruptured eight years. He had worn various bandages, in order to counteract his infirmity, only one of which had at all answered the purpose. As the patient ardently desired to be cured of his disorder, M. Jobert, in the presence of his colleagues, punctured the hernial sac, and injected into it a small quantity of the pure tincture of iodine. The patient was then placed on his back, with his legs flexed slightly on the thighs, in which position they were maintained by a bolster. Almost immediately after the injection the hernial sac began to swell, and in fifteen hours the sac had become as large as if filled with intestine, and communicated a fluctuating half-solid character to the finger. The parts remained in this condition for eight days, after which the swelling rapidly diminished. Twenty-eight days after the operation the track of the spermatic cord was occupied by a cylindrical substance so compact and hard, that the patient was able to rise from his bed, to walk about, and to sit down, without the smallest appearance of an intestinal protrusion exhibiting itself.

The cure remained complete four months after the operation, the testicle had not atrophied, and the inguinal canal was occupied by a firm, solid cord, into which the vaginal process had become converted by its obliteration.

M. Jobert does not allow the tincture to remain permanently in the sac, but withdraws it by means of the syringe. In all cases of congenital hernia, or whenever the sac is distended with fluid, or is

thickened and condensed, and has become adherent to the surrounding strictures, M. Jobert penetrates it at once with a trocar, without first dividing the skin with a scalpel; but whenever the sac is thin, moveable, and easily displaced by pressure, he prefers to divide the skin with a scalpel, and expose the sac before puncturing it.

The superiority which the method by injection offers to all other proceedings which have been devised for the radical cure of hernia, depends, says M. Jobert, on its harmlessness and its simplicity; and M. Velpeau deserves the credit of having, in his 'Annales de Chirurgie,' published ten years ago, first noticed the advantages of iodine injections for effecting the radical cure of herniæ.

ART. 105.—*On the advantages of ice combined with compression in the treatment of Hernia.* By M. BAUDENS.

(*Gaz. Méd. de Paris*, June 3, 1854.)

In sixteen cases of strangulated hernia, in which all the ordinary means of reduction had been unsuccessfully employed, M. Baudens has effected the return of the bowel by the application of ice associated with permanent local pressure. The degree of refrigeration is to be regulated in proportion to the amount of inflammation in the hernial tumour, and the sensations of the patient. M. Baudens commences by the application of a simple compress, which is soaked from time to time in water, the coldness of which is gradually increased. Fragments of ice are afterwards placed on the compress, and the cold thus produced may be augmented, if necessary, to a very considerable intensity by the addition of increasing quantities of common salt. Sometimes the refrigeration alone is sufficient to effect the reduction, as M. Baudens has witnessed on three occasions; but when this does not take place, an elastic bandage is applied over the ice, by means of which a continual steady pressure is exercised on the tumour. Whenever the rupture is so painful that no pressure can be tolerated, ice alone must be employed at the outset, and the elastic bandage may be added as soon as the sensibility of the swelling is sufficiently diminished. In order to facilitate the action of these measures, the pelvis should be kept in an elevated position.

M. Baudens ascribes the efficacy of this treatment to the powerful influence of cold in diminishing the size of the hernial tumour, by overcoming the capillary congestion, and extinguishing the inflammation in the strangulated bowel. Hitherto, says he, the treatment by cold has been condemned, because its therapeutical effects have been neglected or misappreciated. He regards the idea that the application of cold to a strangulated rupture is likely to produce mortification in the bowel as a groundless apprehension, believing that so large an amount of heat is developed in a part during the continuance of inflammation, so as to enable it to resist with facility long and powerful refrigeration, without at all endangering its vitality. He admits, however, that it is quite possible to continue the application of the cold too long, but maintains that the feelings of the patient furnish the best index as to the advantageous or prejudicial operation of the remedy.

As long as the patient feels that the action of the refrigerant is grateful, and productive of comfort, its application should be continued; but as soon as he begins to experience a disagreeable sensation of coldness and moisture, it should be immediately removed.

ART. 106.—*On the seat of Stricture in Strangulated Hernia.*  
By MR. NATHANIEL WARD, Assistant-Surgeon to the London Hospital.

(*A Memoir on Strangulated Hernia, from Cases occurring in the London Hospital.*  
Churchill, Pamphlet, pp. 33, 1854.

These remarks are taken from a memoir, which was read before the Hunterian Society, and which is virtually a very able report on the operations occurring in the London Hospital during the last three years. The whole memoir is full of valuable information, and sound sense; and being based upon no less a number of operations than 69, the various opinions expressed come with considerable weight.

About the seat of stricture Mr. Ward writes thus:

“It is curious and confusing to hear and to read the various descriptions as to what is termed the seat of stricture, or what, in my opinion, would be more properly termed the impediment to reduction; for the parts that surround the hernial protrusion can exert no active tightening effect upon it, but are rather themselves rendered tense by the pressure of the rupture, and its products from within, even, I imagine, although the coverings of the hernia may be, as in some forms of inguinal, muscular in their structure. This distension of tendinous and muscular structures, superficial to the rupture and its sac, in consequence of pressure exerted from within, is admirably illustrated in herniæ other than recent, in which the dimensions of the different hernial canals and apertures are so far from normal as occasionally to allow of the easy admission of three fingers, as occurred in one among this collection of cases.

“Sir Astley Cooper speaks of three sources of stricture: 1st, The crural sheath; 2d, Posterior edge of the crural arch; and 3d, The mouth of the hernial sac. Lawrence, of the thin posterior boundary of the crural arch as the very part that constitutes the stricture; and he compliments Gimbernat on the discovery. Mr. Hey speaks strongly of the falciform edge of Burns; Mr. Key places much stress on a band of fibres above and behind Poupart’s ligament; and Mr. Luke pointing out the transverse fibres that are occasionally found highly developed, and strengthening the sheath of the vessels, as frequently the seat of stricture, these being apparently identical with the bands alluded to by Cooper, as the anterior columns of the sheath of the hernial protrusion.

“Now it would appear *à priori*, from a consideration of the anatomy of the femoral canal, that the sharpest and most resisting structure would constitute the chief impediment to the return of the bowel. Gimbernat’s ligament has this peculiarity, and, in *post-mortem* examinations of femoral ruptures, the bowel will be found to have experienced a greater amount of injury at that part where it was in relation with Gimbernat’s ligament, than elsewhere. I had once an

opportunity of being thoroughly satisfied on this point, on examining an old woman who had suffered from strangulated hernia, and had died without any operation having been performed. The mucous and muscular coats had entirely ulcerated where they were in relation to Gimbernat's ligament, but not elsewhere.

" In numerous cases of femoral rupture, particularly in small and recent protrusions, an incision of Gimbernat's ligament is quite sufficient to effect reduction, and, with this object mainly in view, I conclude Mr. Gay introduced his line of incision to the profession. It is worthy of remembrance, that Gimbernat's ligament is in intimate relation with Poupart's ligament, and with Hey's ligament or the upper part of the falciform edge of Burns, and that they, by their blending together, constitute the greater part of the boundaries of the femoral ring. An incision of Hey's and Poupart's ligament could not consequently be made without relaxing somewhat Gimbernat's, as was illustrated in many cases in this series, in which, after the incision of the former two, the hernia was readily reduced. Now it is true that, after the incision of Gimbernat's ligament, or its relaxation by a division of Poupart's and Hey's ligaments, a rupture cannot, in many cases, be reduced, but returns easily on the further division of the transverse bands strengthening the sheath of the vessels. These bands are then spoken of as the seat of stricture; but they clearly constitute mere secondary impediments, no case having, to my knowledge, occurred in which their division alone, without the previous incision of Gimbernat's or Poupart's ligament, was sufficient to allow of the reduction of the contents of the hernial sac. I conclude, then, that Gimbernat's ligament is the principal impediment to reduction. In small and recent herniæ it is usually the only impediment; but when the tumour has existed for some considerable time, and has much increased on its original dimensions, it distends the canal into which it has descended, and presses on and renders tense and hypertrophied different series of fibres in more or less original intimate relation with the sheath of the vessels, such as the deep femoral ligament, the transverse fibres of the sheath, and Hey's ligament; which structures were, in the small condition of the hernia, lax in comparison with Gimbernat's ligament, and produced no injurious effect on the tumour. These fibres, then, which in the majority of herniæ of long standing have thus become gradually hypertrophied and brought to this condition also partly by the pressure probably of a truss from without, require division on the supervention of strangulation, as well as Gimbernat's ligament, in order to effect the reduction of the gut.

" With reference to the transverse fibres of the sheath, properly so called, I would hazard a few remarks. I am not at all satisfied that the transverse fibres strengthening the sheath of the vessels exist so frequently as some surgeons imagine, and as one would be led to conclude from a perusal of Mr. Luke's essay: but that, on the contrary, they are, in many cases, artificially produced. I have carefully watched the steps of the operation in numerous cases of femoral hernia, and have observed, that immediately after the exposure of the external oblique tendon, the director has been glided down the tendon,

and insinuated immediately beneath the lower border of Poupart's ligament, which has then been divided, when the incision has been directed upwards, and together with it, Gimbernat's ligament, when the incision has been directed upwards and inwards. The result of this proceeding has been to detach Hey's ligament from its connexion with Poupart's. An attempt has next been made to reduce the hernia, but ineffectually. The left index finger has then (as recommended by Mr. Luke) been passed behind Poupart's ligament from above downwards, and, after having reached a variable distance, ranging from almost immediately below the ligament to three-quarters of an inch distant from it, the nail of the finger has been arrested by some more or less dense bands; a probe-pointed bistoury carried carefully along the nail, and then drawn forwards, has divided these bands, and the hernia has gone back without any further difficulty. Now these bands have appeared to me, from the manner in which the first steps of the operation were conducted, to have been the detached upper part of the falciform edge of Burns, and, if so, identical with the structure which Hey, more than forty years ago, described as the seat of stricture in femoral hernia."

As a means of determining the seat of stricture, and of avoiding any unnecessary division of the soft parts, Mr. Ward urges attention to Mr. Luke's "strangulation test," and gives Mr. Luke's description of it from the *Medical Gazette* of 1841. It is this:

"If the body of the hernial tumour be compressed by the hand, an impulse is communicated to all its parts below the seat of stricture; but, if the neck of the hernia be grasped between the finger and thumb of the other hand, above the stricture, while such compression is made, there will not be any impulse felt. When, in the commencement of the examination, the neck of the tumour is first grasped, we may be always assured, that if an impulse is felt on compression of the tumour itself, the seat of stricture is nearer the abdomen; and by gradually withdrawing the finger and thumb in that direction, while renewed compression of the tumour is made, a point will soon be reached at which impulse ceases to be felt. The point at which impulse first ceases to be felt is the seat of stricture. In like manner, if an impulse is not felt when the neck of the tumour is first grasped, we may be equally assured that the stricture is situated nearer to the body of the hernia; and, by a like gradual approximation to it with the finger and thumb, an impulse shortly commences to be felt. The point where the impulse commences to be felt is the uppermost part of the strangulated contents, which implies that the stricture is immediately above it; and, on inquiry, it will be found to correspond with the indications of an examination commenced from below."

ART. 107.—*On Operations in cases of Hernia when the sac and its contents have been reduced en masse.* By Mr. PAGET, Assistant-Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Sept. 31, 1853.)

Mr. Paget has recorded two cases of inguinal hernia in which the sac and intestine having been reduced *en masse* by the taxis and the symptoms of strangulation continuing, he laid open the inguinal canal and succeeded in reaching the hernial tumour, and relieving the constriction at the mouth of sac; in both cases with successful results.

The best collective evidences for the reduction *en masse* appear to be—1st, The signs of strangulation continuing, or first ensuing, after the apparent reduction of a hernia. 2d, The loss of a hernial sac, more of which, according to the history of the case, ought to be felt in or beyond the inguinal canal. 3d, A feeling of fulness at the internal ring, and of an ill-defined, firm swelling in the abdomen behind or below the ring. 4th, An amount of pain at and about the internal ring, which is quite disproportionate to that in any other part of the abdomen, as well as to the other signs of strangulated hernia. 5th, The unusual drawing up of the testicle. Mr. Paget then observes:

“In these particulars, the cases I have related corroborate those already published, and confirm the rule that, when these signs are found coincident, we should act in the belief that the reduction *en masse* has taken place. But the cases presented two rare and deceptive features.

“1st. In each of them, the pushing back of the sac was so far incomplete, that the lower portion of it, containing fluid, remained in, and in one case projected a little beyond the inguinal canal. Feeling this portion of the sac, one might have assumed that no more had ever projected beyond the abdomen. But the cases show that we must count, among the indications of this accident, not only the complete disappearance of a hernial sac, but the marked diminution of one; that it may excite a suspicion, if we can feel, in and beyond the inguinal canal, only a much smaller hernial sac than, according to the history of the case, there should be. If, in either of these two cases, the hernia had been properly reduced, its empty sac should have been felt, not only in the inguinal canal, but along the descending portion of the spermatic cord.

“2dly. In the second case, the sac had been pushed from its connections five or six weeks before the severe strangulation ensued, and, once in the course of that time, intestine had probably been strangulated in, and returned from, the displaced sac. Such an event has not, I believe, been previously recorded; but a single occurrence of it diminishes the confidence with which we might expect that, in all these cases, there would be the history of a very recent reduction of a hernia.

“The incompleteness of the displacement of the sac, to which I just now referred, suggests a rule in operating. If, in the suspicion that a hernia has been reduced *en masse*, the inguinal canal be laid open, and no sac at all be found in it, the probability of an erroneous reduction

is increased; but if, instead of no sac, one be found containing fluid, we might be apt to conclude that this is the whole sac, and that the intestine has been duly reduced from it. But the cases show that the part of the sac containing and strangulating intestine may be pushed back from the internal ring, and that another part, containing fluid, may remain in the inguinal canal: they thus establish, as a rule, that, in all such suspicious cases, we must not desist in the operation without being perfectly satisfied that all is right in the abdominal cavity, so far as it can be reached from the inguinal canal. In both the cases here related, after the exposure of part of the sac in the canal, the detection of its displaced but still constricting mouth was impossible, except by such an examination as would have been unjustifiable in an ordinary case. The sac's mouth was only just within reach of the forefinger, and the sensation received by the outstretched finger touching the intestine in the sac was at first deceptively like to that from intestine in the abdominal cavity.

"I would add a remark on the after-treatment of strangulated hernia as illustrated by these cases.

"The abstraction of blood by nearly a hundred leeches, in the three days following the operation, in the first case, was intended against what appeared to be an active local inflammation of the peritoneum and adjacent tissues, in consequence of the violence used in the displacement of the sac and in the operation. The giving of wine on the third day after the operation, in the second case, was dictated by the fear that a peritonitis would presently ensue, against which treatment might be of little avail.

"The effects of both these opposite treatments appeared to be good, and they indicated, as many other facts do, that there are at least two forms in which peritonitis ensues after operations for hernia. In one class of cases it appears essentially the local consequence of injury; in the other, it is also, and rather, the local indication of a general blood-disease. In the one, it is an active local disease, amenable to local treatment; in the other, it is only one part, one feature, of a constitutional disease of low type, which local treatment can scarcely affect for good.

"We may probably compare the cases of the two classes with those of phlebitis after amputations; of which, some are simple local inflammations of injured veins; others are inflammations of veins, associated with diseases of many other parts, and declaratory of diseased blood. The parallel would hold in many respects, and, among them, in this, that the peritonitis or phlebitis of local origin and nature ensues very early after the operation, or is continuous (in the case of peritonitis) with that which preceded the operation; while the disease of constitutional origin, whether peritonitis or phlebitis, comes on later, and with an interval of two, three, or many more days, in which no signs of it may be detected. There are similar differences and correspondences in the earlier and the later erysipelas after operations; the former is mainly a local disease, the latter is the localized indication of a general disease; and, as in the corresponding cases of peritonitis and phlebitis, the one is a comparatively trivial, the other a very grave, disorder.

"Now, the respective indications of the earlier and the later occurrence of phlebitis and of erysipelas after operations, are, I believe, recognised by many; and the time that has elapsed between the operation and the access of the disease is often reckoned among the facts determining the plan of treatment. A similar rule should be held concerning operations for hernia. In general, if peritonitis ensue within twenty-four hours after the operation; or, if it existed before the operation, and continue or is increased after it, it may be assumed to be chiefly a local disease, a simple inflammation of injured parts, which may be treated by local or other bleeding, by abstinence from food and stimulus, and perfect rest; or which, if it be slight, may be left to spontaneous recovery. If, on the other hand, the peritonitis first manifests itself more than twenty-four hours after the operation, it is probably an indication of a general blood-disease of some low type, for which opium and well-regulated food, or even stimulants, afford the best hope of remedy.

"I need hardly say, that this difference in the time of first appearance must not be taken as alone sufficient for the diagnosis of the two forms of peritonitis, or for guidance to practice. I believe only that it may be reckoned among the most useful indications. Neither may twenty-four hours after the operation be fixed as an exact time by which, according to their advent within or beyond it, we might class all the cases of peritonitis; it is, I believe, a fair general estimate, but nothing more. Nor must the one form of the disease be regarded as exclusively a local, or the other exclusively a constitutional malady; each is only chiefly the one or the other; and, in different cases, we may find the constitutional and the local elements of disease prevailing in various proportions."

ART. 108.—*Reduction of strangulated Inguinal Hernia, by forcible rupture of the ring.* By M. SEUTIN, Professor of Clinical Surgery in the University of Brussels.

(*Presse Méd. Belge*; and *Rév. Méd. Chir.*, June, 1854.)

The plan proposed by M. Seutin, is to introduce the finger into the inguinal canal, and break down the strangulating portion by main force. An instance of strangulated hernia in a cabman is referred to as having been reduced in this manner, and this is said to be only one of several instances of the kind which have occurred since 1849. M. Seutin is also said to have demonstrated the practicability of the operation upon the dead body in the presence of M. Lombard, of Liege, and several other surgeons.

The account given in the *Révue Medico-Chirurgicale* is very short, and it is taken from a source for which M. Seutin himself is not responsible, and hence, it is possible that M. Seutin's idea may not be fairly stated. In the meantime, however, it is to be remembered that the point of strangulation is not always at the ring, or within reach of the finger.

ART. 109.—*On the local treatment of Hæmorrhoids by Nitric Acid.* By  
(1) Mr. HENRY LEE, Assistant-Surgeon to King's College; and  
(2) Mr. HENRY SMITH, Surgeon to the Westminster Dispensary.

1. (*Pathological and Surgical Observations*, by Mr. H. Lee. Churchill, 8vo, pp. 232.)
2. (*Medical Times and Gazette*, Aug. 19, 1854.)

1. The use of nitric acid was first proposed, in 1843, by Dr. Houston, surgeon to the City of Dublin Hospital, in two kinds of hæmorrhoidal affections. The first of these is described as a sort of aneurism by anastomosis of the small vessels of the mucous membrane and sub-mucous cellular tissue: the second as of a chronic inflammatory nature, and best illustrated by comparing it to the red, villous, tender, hæmorrhagic surface exhibited by the mucous membrane of the eyelids in old cases of chronic conjunctivitis.

Dr. Houston also proposed the same treatment for the removal of those dilatations of the larger veins of the bowels, which are sometimes connected with these tumours.

Acting upon this suggestion, Mr. Lee was induced to try the same treatment in other kinds of the hæmorrhoids connected with a relaxed state of the mucous membrane. This was in 1848. The result of Mr. Lee's experience is to be found in an admirable essay in this work, whose title is at the commencement of this article, and to which we earnestly direct attention. Mr. Lee writes:

“From the experience which I then had, I was led to make the following observations. The benefit derived from this plan of treatment must not be expected till the small ulcers made by the caustic begin to heal. The loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the relaxed membrane, and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coverings of the bowel.

“The degree of pain experienced in this operation depends in a great measure upon the way in which the nitric acid is applied. The sensibility of the thin skin around the anus is very great; and if the acid be allowed to come in contact with it, the degree of tingling pain is very considerable. If care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, a slight uneasy sensation in the lower part of the abdomen is generally all that is complained of.

“In the application of nitric acid to hæmorrhoidal tumours, the degree of irritation experienced will often depend upon the extent of surface involved in the operation. When, therefore, a considerable amount of the mucous membrane descends with the tumours, it is desirable to select certain portions, to which the application of the acid should be confined. The action of the acid may be limited either by applying a small quantity at a time, or by shielding the surrounding surface with a paste made of chalk and water.

“Every portion of mucous membrane to which the acid extends should be as completely deprived of vitality as possible, since the degree

of pain experienced will necessarily depend upon the remaining sensibility of the parts.

“Unless these conditions are observed, the application of nitric acid, or of any other caustic, to the mucous membrane of the rectum, may prove as serious an operation as that for which it is intended as a substitute.

“The nitric acid used in such cases should be the strongest that can be procured: that which is usually kept by chemists under the name of the strong nitric acid does not effectually destroy the surface to which it is applied; and when used, it therefore produces more pain than the strongest acid, and cannot moreover be so certainly relied upon to accomplish the intended purpose.

“The most convenient way, perhaps, of applying nitric acid, when the tumours can be protruded, is to encircle their base with an instrument which will at the same time hold them in their situation, and make sufficient pressure to prevent hæmorrhage in case they should be disposed to bleed. If necessary, any portions of the hæmorrhoidal tumours, or of the mucous membrane, may be removed with a pair of curved scissors, and the cut surfaces immediately wiped dry, and touched with the acid. If the application of the acid be made before any bleeding has taken place, the blood in the divided vessels will become coagulated, and the vessels permanently sealed.

“Care must be taken in performing this operation, when any portions of mucous membrane have to be excised, that the pressure completely command the hæmorrhage; for, if any blood escape from the part, it will become mixed with the acid, and thus prevent it from effectually acting upon the surface to which it is applied. The instrument which is best adapted for restraining the hæmorrhage under these circumstances, and for holding the prolapsed tumour in position, consists of two parallel curved plates of steel, with their internal edge slightly indented. These are connected together at their extremities, and by means of a screw or spring may be made to exert the exact degree of pressure required.”\*

For the purposes of treatment, Mr. Lee divides hæmorrhoids into those which bleed, and are composed of a soft vascular substance, and into those which do not bleed, and are composed of firmer tissues.

*Now it is in the first kind of hæmorrhoid that nitric acid is so useful.* In illustration of this, many cases are related, and of these the following may serve as an example:

CASE.—S. D., æt. 31, came under my notice in November 1850; about four months previously, she first experienced irritation and pain in the situation of the rectum after walking or riding. This was accompanied by a very uncomfortable sensation of bearing down. About a month after the first appearance of these symptoms she first had hæmorrhage from the bowel. The blood passed was fluid, and came only with the motions. The quantities discharged gradually increased, and soon appeared whenever she passed her motions or water. She would occasionally, at these times, lose as much as

\* The instrument described by M. Jobert, in the ‘Gazette des Hôpitaux’ of the 1st October, 1853, is a modification of the above, a description of which was published in 1848.

a quarter of a pint at a time. From this cause she had become extremely weak and exsanguine.

No evident reason for this hemorrhage could be ascertained by external examination, but, on introducing the speculum into the rectum, a tumour presented itself on the right side. Immediately above this was a transverse ulcerated fissure, from which the blood was seen to spurt across the speculum in a single continued stream. This fissure was so situated, that any descent of the hemorrhoidal tumour would necessarily draw upon and separate its edges. The tumour and the fissure above it were touched with the strong nitric acid on the 14th of November.

Nov. 22d.—She had had slight hemorrhage the second day after the operation, but since that day she had not perceived any. She was now feeling stronger and had improved in her general appearance.

Dec. 17th.—She had had no hemorrhage since the last report, and had regained her usual health. The bowels were now quite regular, and the motions passed without pain or inconvenience. This patient was so well satisfied with the result of the operation, and with the slight amount of inconvenience which she suffered, that I cannot doubt but that I should have seen her again had there subsequently been any return of the symptoms.

On the other hand, the nitric acid is not of itself sufficient in the second class of cases—cases “in which the mucous membrane has become thickened, and the subjacent parts infiltrated with lymph, as the result of repeated attacks of inflammation; and those in which the mucous membrane from long exposure has become hardened and altered in structure. The first of these orders of cases is met with usually in the comparatively young and plethoric; the second, in patients of a languid temperament, or advanced in life. The acid, when applied in such instances, does not fairly permeate the structure of the mucous membrane; it usually removes a superficial layer only, which is soon replaced, and the diseased parts are left in much the same condition as before.”

In these cases the plan recommended by Mr. Lee is as follows:

“The affected parts are first made to protrude, and then embraced by a broad forceps, made upon the plan of the instrument described by me in 1848.

“The instrument consists of two parallel thin blades, with their opposed surfaces roughened, and closing by means of a spring. This may be made to exert any degree of pressure which may be required. With this instrument the prolapsed part is seized, and such a portion of it as may be deemed expedient is cut off on the side of the ‘clamp’ next to the operator with a curved knife made for the purpose. The cut surface is then touched with the strong nitric acid, or with the actual cautery. The parts are returned into their natural position, and the operation is completed. This plan is easily adapted for the removal of hemorrhoidal tumours, and the excision of portions of relaxed mucous membrane, where no hemorrhoidal tumours apparently exist. The forceps retain their hold of the base of the prolapsed part after the requisite portion is removed. The cut surface is thus prevented from either bleeding or retracting, and it is held in a convenient position for the application of the cautery or caustic. This application is as essential a part of the operation, as securing any bleeding vessels is after an operation in any other part of the body.

“ It will frequently happen that the parts cannot be sufficiently protruded to be conveniently seized by the forceps which I have described. I have then performed the operation very satisfactorily in the following way :—A rectum speculum has a slide upon one side which may be removed ; this is made to fit accurately into grooves on each side, so that by being withdrawn to a greater or less extent, a corresponding aperture is left in the side of the instrument. When the speculum is introduced, the slide is partially withdrawn, and the instrument moved about until the tumour, or the portion of mucous membrane required to be removed, projects into it. The slide is then closed, and the tumour is firmly held between it and the rest of the instrument ; the projecting portion may then be cut off within the speculum by a long narrow knife, and the cut surface touched as before with the nitric acid, or with the actual cautery. Or, in case it should be deemed advisable to remove a longitudinal portion of the mucous membrane, the operation may be varied as follows :—The speculum, instead of being made single, is made double ; that is, there is one speculum within another, so arranged that the outer one will revolve upon the inner. Each part has an oval aperture at its side : when these apertures correspond, a tumour, or portion of relaxed mucous membrane, will readily project into the speculum. When the part to be removed has thus passed through the corresponding apertures, the different portions of the instrument are made to revolve upon each other, and thus the aperture is diminished, until the condemned part is embraced between its opposite sides. Being thus firmly held, the operation is completed as above described.

“ All the instruments which I have mentioned, are made by Mr. Matthews of Portugal Street ; and although they are very simple now that they are finished, yet a considerable amount of time and patience have been required in order to get them adapted to their intended purpose.”

This plan appears to have many advantages. The instrument effectually prevents hemorrhage, and it also lessens the pain of the operation by the numbness which is produced by its pressure. The cure is more speedy than that by the ligature, and it does not necessitate confinement to bed. There is also far less risk of purulent contamination or any such serious mischief.

2. Mr. Smith’s paper is to the same effect, so far as it goes. He relates some cases, of which this is one :

CASE.—In May last I was requested to see Mr. F., a gentleman who had just returned from Australia, who had suffered for several years from distressing protrusion of the rectum after going to stool.

On examination, I discovered that there was a highly congested and relaxed state of the whole mucous membrane of the rectum, and just within the sphincter a vascular broad mass, which might or might not be termed a pile. The pain from prolapsus of the mucous membrane on going to stool was most excessive. In addition, there was an external hemorrhoidal excrescence attached to the verge of the anus. I consulted with the surgeon in attendance, who had not even heard of the use of nitric acid before he came to England, and it was determined to apply it freely to the whole congested and relaxed portions of the rectum.

The patient was very anxious that only one operation should be done; therefore, the very strongest acid was applied with freedom, and the external pile was cut off.

It was not necessary to apply it again. Great pain was produced by the acid, lasting some time, but when his bowels were first moved after the operation, there was not any prolapsus, and in a few days he had lost all trace of a complaint which had for years embittered his life.

**ART. 110.—*On Galvanic Cautery in the treatment of Hemorrhoids.***  
**By Mr. RICHARD STEEL.**

(*Assoc. Med. Journ.*; and *New York Journal of Medicine*, July, 1854.)

Mr. Steel communicates a very interesting case in which at his suggestion, this mode of treatment was tried by his cousin, Mr. E. Y. Steel, and found most efficacious. He writes:

“ The apparatus which we have used for igniting the coil of platinum wire has been made by myself, and consists of a modification of Wollaston’s battery of a dozen pairs, so contrived as to admit of being conveyed from place to place with the certainty of not deranging it; and it is set in action with ease and readiness when required. I had previously used a Grove’s battery, which I had by me, but felt it desirable to arrange a battery better suited to be sent to a distance from home, and then found immediately ready for use.

“ The idea of using this plan of treatment for hemorrhoids was suggested to my mind on learning the satisfactory results of the galvanic cautery, as used by Mr. Marshall, of University College Hospital, for the destruction of morbid growths, also for producing artificial contraction of mucous membrane, especially of that lining the vagina, for the cure of prolapsus uteri. Having repeatedly employed the method so suggested for removing erectile tumours and semi-malignant growths, I was struck with the comparative painlessness of the application, and at once conceived the idea of applying it to the treatment of hemorrhoids. I was confirmed in the idea on examining a case requiring an operation, and which presented so large a mass of redundant matter, that I was anxious to avoid, if possible, inflicting the severe pain involved in the repeated use of the acid on the one hand, and the danger of hemorrhage following excision on the other. Here was a diseased mass to be destroyed, and relaxed mucous membrane, producing prolapsus, to be contracted; the loss of substance caused by the actual destruction of diseased tissue primarily, and subsequently by the separation of sloughs, secured the first indication; the contraction of the cicatrices secured the second. The ignited platinum coil being applied more or less deeply, or over a greater or less surface, will produce any amount of destruction of parts or of contraction that may be necessary. The smaller amount of pain and of danger to the patient is such, that I shall in future use it in the treatment of this disease, in preference to any other method with which I am at present acquainted.

**CASE.**—I was consulted about three months ago, by a gentleman, under the following circumstances. For thirteen years he had been suffering from

emorrhoids with prolapsus, in so severe a degree as to be compelled to leave the army, which he did about seven years ago, when he placed himself under treatment in London, without obtaining relief. The malady subsequently became aggravated to the extent of incapacitating him for physical exertion of any kind, such being invariably followed by protrusion attended by extreme suffering and profuse hemorrhage. Deeming his case to be incurable, he had of late taken no other precautionary measures than those dictated by his own experience, for the purpose of alleviating in some degree the extreme suffering whereby too often his life was made a burden to him.

On examination, I found a mass, fully of the size of a cricket ball, consisting of hemorrhoidal tumours, varying in intensity of colour and in degree of hardness, but all exquisitely tender to the touch. Having found by experience that the operation by ligature, however modified, was often followed by intense suffering, inducing irritative fever, whereas the application of concentrated nitric acid was always safe, certainly less painful, and frequently quite as successful, I determined upon using the latter method in the first instance.

Accordingly, on the 29th of last November, I applied the acid freely to the more prominent parts of the internal mass, avoiding the outer ring, which I had smeared with oil in the usual way. The pain thus occasioned was severe at the time, and continued for some hours, not altogether subsiding for several days, although not such as to require confinement to bed.

On December 4th, the hemorrhoidal mass somewhat lessened. A second and third application, at intervals of ten days, were followed by similar results; the hemorrhoidal tumours having sensibly yielded to the treatment, but still presenting a formidable appearance.

At this time, the suggestion of the galvanic cautery having been made to me by my cousin, Mr. Richard Steel, and he having supplied me with a battery of his own contrivance for the purpose, I determined upon resorting to it for the further treatment of the case.

On January 18th, I proceeded to touch the more prominent of the remaining tumours with the ignited coil. The pain was comparatively so trifling as to be thought insignificant; and immediately after the return of the gut, my patient walked about the house as if nothing had been done.

On February 8th, the parts which had been touched by the cautery were found to have sloughed away, leaving sulci, which will, I doubt not, on cicatrization becoming complete, have effectually promoted the contraction of all redundant mucous membrane. The cautery was a second time applied with similar results, and so effectually, that the patient can no longer protrude the hemorrhoids sufficiently to admit of external examination. He can now use any exertion, such as lifting heavy weights, without inconvenience; and, for the first time during many years, he has relief from his bowels without pain or hemorrhage. He says that the galvanic cautery is painless in comparison with the nitric acid application; and I can vouch for the fact of its efficacy, as well as for the ease with which it can be applied to any extent that may be required. In a word, I feel assured that it is on every account a most valuable, safe, and convenient application for the removal of hemorrhoidal tumours.

ART. 111.—*A new method of Diagnosis in Fistula Ani.*  
By M. LIMAUGE.

(*Arch. Belges de Méd.*, Juil., 1854 : and *Medical Times and Gazette*, Sept. 30, 1854.)

In cases of fistula ani, in which the intestinal orifice of the fistula cannot be discovered by the ordinary methods of investigation, M. Limauge suggests that a small quantity of the compound tincture of iodine should be injected through the external aperture of the fistula, while the finger of the operator is retained in the rectum. A permanent stain will thus be produced on the skin of the finger, by which not only the existence of an internal orifice is established, but a pretty correct idea is also afforded of the situation of that orifice, and its distance from the outlet of the bowel.

M. Limauge observes, that the tincture of iodine is preferable to other coloured solutions that have been recommended as injections into fistulæ, because, if the rectal orifice of the fistula should happen to be extremely small, so minute a quantity of the injected fluid may penetrate into the bowel, that its presence may easily escape detection, unless a distinct and indelible stain, such as the tincture of iodine communicates, is imparted to the finger.

ART. 112.—*On the differential Diagnosis of Hydrocele, and the diseases with which it may be confounded.* By Mr. G. H. BUTCHER, Surgeon to Mercer's Hospital, Dublin.

(*Dublin Quarterly Journal of Medical Science*, Feb., 1854.)

*Hernia.*

Begins above.  
Changeable in bulk.  
Engages ring.  
Feeling of weakness.  
Can often feel intestines, or omentum.  
Testicle at the bottom.  
Opaque: in child sometimes transparent.  
Base of tumour above.  
Flatulence, dyspepsia.

*Varicocele.*

Soft, like earth-worms.  
Changeable, like hernia.  
Ring dilated often.  
Testicle distinct.  
Testicle wasted.  
Tumour whole length of chord.  
Tumour light.

*Hydrocele.*

Begins below.  
Unchangeable.  
Ring free.  
Feeling of weight.  
Can feel nothing.  
Testicle at back part.  
Often transparent.  
Base of tumour below.  
Bowels not deranged.

*Hydrocele.*

Tense, elastic.  
Unchangeable.  
Ring closed.  
Testicle indistinct.  
Enlarged, if distinguishable.  
Tumour at bottom.  
Tumour heavy.

*Venereal Testicle.*

Both engaged generally.  
Tumour very heavy.  
Hard all over.  
Size moderate.  
No fluctuation; sometimes small quantity of fluid.  
Tumour slanting.  
Painful to handling.  
Solid contents.  
Eruption, or sore throat.

*Scrofulous Testicle.*

Round in form.  
Never very large.  
Solid.  
Heavy.  
Lies at the bottom of the scrotum.  
Inflames in spots.  
Suppurates, fungates.  
Scrofula in other glands.

*Fungus Hæmatodes.*

Tumour irregularly hard and soft, hardness predominating in early stages.  
Shape, globular generally.  
Rapid in growth.  
Painful.  
Opaque.  
Elastic.  
Chord becomes hard and knobby.  
Pains up loins.  
Health impaired.  
Fungates.

*Cancer of the Testicle.*

Hard, knobbed.  
Small.  
Round.  
Painful on handling.  
No fluctuation.  
Chord knobby.  
Adheres to scrotum.  
Glands in groin enlarged.  
Shooting pains.  
Fever peculiar.  
Fungates.  
Death.

*Hydrocele.*

One tunica vaginalis generally.  
Tumour not so heavy.  
Hard only at back part.  
Often very large.  
Fluctuation.  
Tumour perpendicular.  
Not painful.  
Fluid contents.  
None such necessarily.

*Hydrocele.*

Oval in form.  
Often very large.  
Fluctuating.  
Light.  
Grows upwards.  
Never so.  
Never suppurates.  
Not so.

*Hydrocele.*

Uniformly smooth.  
Oval generally.  
Slow in formation.  
Free from pain.  
Transparent.  
Fluctuating.  
Chord sound.  
No such pain.  
Not so.  
Never.

*Hydrocele.*

Soft, smooth.  
Large.  
Oval.  
Not so.  
Fluctuation.  
Chord soft.  
Never.  
Never enlarged.  
Never (in loins).  
No fever.  
Never.  
Never.

In hydro-sarcocele the testicle will be found hard, painful, irregular, large at the back part, with some fluctuation in front. Testicle distinguished in hydro-sarcocele, not so in hydrocele generally. Shooting pains on handling the former, not so in the latter. If obscure, the tumour may be tapped, and then the enlargement of the testis will be discovered, and the water small in proportion to the size of the tumour.

**ART. 113.—*Case of Urine escaping through an unusual Channel.***  
By Dr. J. MACPHERSON.

(*Indian Annals of Medical Science*, April, 1854.)

The precise nature of this case is somewhat obscure. The channel for the urine appears to have been formed by an abscess, first communicating with the bladder and subsequently opening upon the outside of the thigh; but Dr. Macpherson is inclined to think that infiltration of urine and sloughing would have been caused if this had been the explanation. The case must speak for itself. Dr. Macpherson writes :

**CASE.**—Mr. P. M., a native of Devonshire, æt. 31 (who had been treated by me before for hæmoptysis, in August 1848; when he had difficulty in making water, which had been gradually coming on, although a catheter was readily introduced), was admitted into the General Hospital at Calcutta on the 5th of March, 1850.

He was then of phthisical aspect, and complained of pain and swelling in his left groin, where several small glands were enlarged; on the 18th the report is—"Glands continue enlarged, there is much pain in his thigh, he keeps the knee constantly flexed, and cannot stand." On the 24th—"Has been suffering from diarrhoea, and continues very weak, though there is no positive indication of any local abscess or other mischief."

April 1—"Has difficulty in making water, which has been slowly coming on for some days. There is no difficulty in passing a full-sized catheter, and his urine deposits an immense purulent sediment."

No particular change took place this month; the pain in the thigh continued. The urine was always loaded with pus, but a troublesome cough, with copious expectoration, came on, and he gradually lost strength; he also had constant pain in the loins. In May he continued in exactly the same state, and being tired of so long a stay in hospital without any benefit, was discharged on the last day of the month.

I attended him at his own house during the month of June. All the symptoms continued the same, the patient got gradually weaker, and as I prognosticated a fatal result, he begged to be allowed to try mesmerism, of which he had heard wonders. He was told that in his state it could do him neither harm nor good, but that I had no objection to his trying it, and accordingly he sent to the Mesmeric Hospital, and got a native assistant from it to come and operate on him.

In this way the better part of a month was spent. About the beginning of August I was sent for again, and found him in his former condition, but miserably reduced. The mesmerism, he said, had disappointed him, and had not even produced any soothing effect. Early in August there was more swelling in the thigh, and it began to be localized over the trochanter, his

mouth got aphthous, the cough again became more troublesome, the urine continued purulent, and there was some pain in his loins.

About the end of August, when the nature of the swelling over the trochanter was apparent, an opening was made, and there was a copious discharge of healthy matter; a probe could be introduced nearly its whole length in almost every direction from the opening, but no bone was exposed. From that moment the urine became clear. The day after this he declared that urine had proceeded from the opening. I was somewhat incredulous, but was convinced by seeing it flow in a stream. Fully one half of his urine escaped through this novel channel.

On September 16th he was, though improving in general health, re-admitted into hospital. The urine had then almost ceased to flow through the fistula, but there was more swelling about the hip, and the left foot was also swollen and oedematous.

From this time his health gradually improved. On November 4th, the report is—"the fistula over the trochanter has been closed for a fortnight; his urine is clear; cough gone, and he is gradually regaining his strength." He was discharged shortly after.

There is nothing of interest in the treatment of the case which, in ignorance of its real nature, was simply palliative. The cure was effected by opening the abscess.

I have inquired into the subsequent history of this very curious case, and the following is an extract of a letter from the patient from the Mofussil, dated May 24th, 1853:—"My constitution still remains firm. I take mounted exercise daily, and often ride 24 miles per day. My cough has never troubled me since I have been in the Mofussil. My water is clear and free, particularly so since the last 12 months. I have felt no pain in my loins. I have had neither swelling nor uneasiness in the seat of the former abscess. I have occasionally felt a slight stiffness in the left leg, which never lasts more than 24 hours. These last seven months I have been able to give the leg a fair trial, having been obliged to be a great deal on foot. My appetite is always good."

**ART. 114.—*On the operation of opening the membranous portion of the Urethra in retention of Urine from enlarged or diseased Prostate.***  
By Dr. LAWRIE, Professor of Surgery in the University of Glasgow.

(*Glasgow Med. Journal*, Oct., 1854.)

Practical writers in describing the methods of reaching the bladder in cases of impossible catheterism from diseased prostate, allude to two methods only—puncture above the pubes, and forced catheterism through the prostate gland. "Both methods," writes Dr. Laurie, "are objectionable: the first is almost always a fatal operation, and the second sometimes causes dangerous hemorrhage, or may condemn the patient to the uncertain use of the catheter for the rest of his life.\* Besides which, it is at times impossible, as happened in a case in the infirmary here several years ago, in which every catheter tried bent in the forcible attempts made to thrust it into the bladder.

"So far as I know, no proposal to puncture through the perineum in this class of cases has yet been made. Sir B. Brodie† says, 'it will be of no service here . . . to make an opening into the urethra

\* Sir B. Brodie on the Urinary Organs, p. 180.

† *Ibid.*, p. 149.

beneath the pubes.' With all deference, this is the very operation which will be of service—it is one which I have taught for many years in my lectures, and which it is the object of this notice to recommend to my professional brethren. I shall describe the operation, and add a case in which it was performed.

"The instruments required are, a common curved or rectangular lithotomy staff, a sharp-pointed bistoury or lithotomy knife, and a straight metal or elastic catheter. Before Dr. A. Buchanan invented his rectangular staff, I used the common curved staff, grooved on its under surface; but now I greatly prefer the former, taking care that the under limb of the instrument is not too long.

"The patient being placed and tied as for lithotomy, the staff is introduced and held as for lithotomy, *i. e.*, pushed down upon the rectum, and the angle made to project towards the perineum. The point of the staff ought merely to reach the apex of the gland, or pass about half an inch into it. Hence the necessity for having the under portion of the staff short. The urethra is now to be opened by thrusting the knife into the groove of the staff, not deeper than merely to make sure that the canal has been opened, and, immediately withdrawing it, making an incision just large enough to admit the finger. The finger being placed in the wound, a straight metallic catheter is introduced into the urethra, and lodged in its membranous and pervious prostatic portions. The staff is now withdrawn, and we have a straight catheter in a short straight canal, which a little gentle manipulation enables us to lodge in the bladder and relieve our patient. As it is of importance to have a thorough command of the catheter, I use one twelve inches long, slightly curved, and perforated at the point: the slight curve enables us to glide it under the arch of the pubes, and over a projecting third lobe, while the perforation at the point allows us to withdraw it over the probed wire, and to lodge and retain in its place a short elastic tube. The following will show that the above proposal is not merely theoretical."

CASE.—Some weeks ago I was asked to see, in consultation, a gentleman upwards of eighty, and found him labouring under retention of urine of several hours' continuance. Before my arrival, a common-sized catheter seemed to reach the bladder, but gave vent to blood only. Not having a prostatic catheter with me, and urgent engagements calling me elsewhere, I was obliged to defer farther attempts till the evening, when I completely failed to empty the bladder. As it was now late, and the patient was a little way out of town, it was agreed that I should return at 6 in the morning, and, if possible, reach the bladder by incision. I took Dr. A. Buchanan with me, who tried the prostatic and his compound catheter without success. I immediately performed the operation as above described, and with the utmost ease, and by the simplest possible operation, drew off a large quantity of bloody urine. The relief was great, but only temporary—the old gentleman sank, and died in about twenty-four hours.

Want of success in this case does not militate against the operation. Everything was against it—the great age of the patient, the previous repeated attempts to introduce catheters, the loss of blood from the urethra and prostate, and exhaustion, made recovery all but impossible. In similar cases let careful, but not too frequent, attempts be made to pass the prostatic

catheter, and if these fail, let the urethra be opened *at once* in the manner recommended, and I have no fear of the result.

ART. 115.—*On "Mucous Gleet."* By Mr. MILTON.

(*Lancet*, April 29, 1854.)

In these remarks Mr. Milton's object is to show that "Mucous Gleet," a gleet of the prostate and seminal vesicles, is not a form of spermatorrhœa. He says, "Mr. Hunter, the Newton of medicine, whose true merits, to my thinking, even overshadow those of the giant of the physical sciences, says:—'Diseases of the vesiculæ seminales are very familiarly talked about, but I never saw one. In cases of very considerable induration of the prostate gland and bladder, where the surrounding parts have become very much affected, I have seen these bags also involved in the general disease, but I never saw a case where they appeared to be primarily affected.' \* So far as I can learn, all other trustworthy observations confirm this view. I have never heard of nor seen a case in which disease of the seminal vesicles alone was detected; in a few rare instances they become mechanically involved by the spread of the destructive action, but they generally remain free in the most extensive disease, either of the urinary or generative organs.†

"The principal argument made use of to prove that the seminal vesicles are the receptacles of the semen is the presence of spermatozoa or zoosperms in them. M. Lallemand, on examining thirty-three bodies, found spermatozoa in the seminal vesicles of thirty of them; but only in the testicles of two, one of whom had died from a fall, the other of gastro-enteritis, which he thinks would go to show that these animalculæ are formed in the testes, and then pass into the seminal vesicles. The next argument is, that small, brilliant, granular bodies are found in the urine of spermatorrhœa patients; that they are met with in the masses of mucus squeezed out by these patients after going to stool; and as they are found in the seminal vesicles, *of course* these are the receptacles of semen. These are also met with at all times in the semen of healthy men, and in great abundance in that of birds just before the testes become ripe.‡ The third is, that spermatozoa are wanting or few in the organs of castrated persons.

"Mr. Pritchard § says: 'The molecular motions of Dr. R. Brown-viz., those seen under a deep magnifier in a drop of water, in which finely divided gamboge or other organic substances have been triturated; these motions have been compared with the spermatozoa of animals and plants, *which are now considered as physical motions only.*'

\* On the Venereal, p. 283.

† Mr. Bransby Cooper says, in the 43d volume of the "Medical Gazette": "The vesiculæ seminales are but rarely attacked by disease, but they have been found after death filled by scrofulous deposits of the cheesy matter so frequently met with in different parts of the body in the strumous diathesis; but where this condition exists, *there are no symptoms developed during life indicative of the change that has occurred.* This, however, probably arises from so little being known of the true functions of the organ."

‡ See a paper read by Mr. Gulliver at the Zoological Society, July 26, 1842.

§ A History of Infusorial Animalcules, 1852.

Here, then, we have the alpha and omega of scepticism and credulity; the one elevating these little cells—for they are nothing more—into the essential part of the most important of all secretions, the other viewing them as *a mere appearance*, produced, I presume, by causes acting from without.

“ In cases where the generative power seemed quite lost, the testes having secreted no semen for a long time, I have found the vesicles containing their usual fluid. Among other observations, I may mention that last year I dissected with great care the generative organs of a man who died in St. Luke’s Workhouse at the age of 85. The testicles had long performed no function at such an advanced age; they were very pale and somewhat wasted; the vas deferens was permeable, but very small, and its walls rigid; but I could observe no difference in the appearance and contents of the seminal vesicles from what I had noticed in young people.

“ It is asserted that the discharge which takes place in one form of gleet—viz., that of a thick mucus after going to stool or passing urine, is semen; that it comes in great part from the seminal vesicles; and that the disease is consequently a form of spermatorrhœa. Speaking of this view, Mr. Hunter says: “ First we may observe the discharge in question is not of the same colour with the semen, and is exactly of the colour of the mucus of the prostatic gland and of these bags (the seminal vesicles). It is not of the same smell, and indeed it has hardly any smell at all. The quantity evacuated at one time is often much more considerable than the evacuation of semen even is, and it happens more frequently than it could ever do were the discharge semen. It is a disease which often attacks old men, where one could hardly suppose much semen to be secreted; and we find that those who are affected with this disease are no more deficient in the secretion and evacuation of the semen in the natural way than before they had the disease. If the mind be at ease, this will take place immediately after a discharge of semen, as well as before, which could not be the case were it semen. Further, if those that labour under this complaint are not connected with women, they are as subject to nocturnal discharges from the imagination as persons who are perfectly sound.”

“ This close and comprehensive reasoning shows the depth and grasp of Hunter’s clear, broad mind; and it is only surprising to me that the tissue of errors stated by M. Lallemand on this subject should have been admitted, after the truth had been set on so secure a basis by Mr. Hunter. But then we are told this substance has the peculiar smell of semen when rubbed between the fingers. Unfortunately for this part of the argument, it happens that the true semen has no smell! The semen, *when ejaculated*, has a peculiar odour, *but then it is mixed with the secretions of the vesiculae seminales, the prostate, and Cowper’s glands.*\*

“ Of one thing I am quite sure, persons subject to both kinds of discharge have no sensation when this mucus or vesicular gleet, as I shall henceforth take the liberty of calling it—is passing away, except

\* Kölliker’s Manual of Human Histology.

that of a bulky body going along the urethra, and yet when they have emissions are conscious of the usual sensation. This gleet may occur without seminal emissions, these without it; when both co-exist, one may be cured quite independent of the other. The microscope, it is said, gives proof that it is semen by making visible the spermatozoa; these cells, however, are found in the vas deferens, and it is possible some few may be ejaculated at the same time the vesiculae seminales are emptied."

#### ART. 116.—*On certain primary Venereal Affections.* By Mr. ACTON.

(*Lancet*, Oct. 14, 1854.)

The following remarks upon gonorrhœa, gleet, and swelled testicle, occur in a sketch of the present condition and treatment of diseases of the generative and urinary organs in Paris and London comparatively.

##### *Gonorrhœa.*

" It is to be regretted, but still the conscientious surgeon is obliged to admit the fact, that notwithstanding all the improvements that have taken place in the treatment of diseases of the urinary and generative system during the last few years, little progress has been made in the cure of gonorrhœa. It is true that we have in this the nineteenth century a better knowledge than we before possessed of the pathology of the disease, and we have expunged many a vulgar error which was entertained about the complaint; but as to the discovery of a certain rapid cure, we are as far distant from it as ever, and perhaps it is only with a reputation such as Ricord's, that a teacher dare make the acknowledgment that, after performing various experiments during a long course of years, no certain plan of cure has been discovered. This, however, is not so surprising to the old practitioner as it is to the tyro, who does not consider the situation the discharge comes from, the frequency with which the disease occurs, the liability of relapse, together with the little attention a patient will pay to the complaint; but, above all, that the urine, loaded with all sorts of stimulating substances, must necessarily pass over the inflamed surfaces many times in the twenty-four hours; and it would almost appear, as if gonorrhœa would ever continue to be the *opprobrium medicorum* and the pest of the patient, notwithstanding all the science bestowed upon it. In saying this, however, I would not be understood to mean that gonorrhœa should last an indefinite length of time; far from it, for in 19-20ths of the cases the affection is to be cured readily and easily in persons who will take ordinary precautions; but every now and then cases occur which linger on many weeks, and yield at last to change of air or abstinence from all treatment, the disease apparently wearing itself out.

" During the last few years, M. Ricord has been gradually relinquishing the employment of caustic injections in the treatment of this complaint. He still thinks that in many cases this is the treatment attended with the most certain success; but every now and then in-

stances occur in which the pain is very severe, the inflammation runs high, and then, instead of a cure being obtained, the disease relapses into a chronic state, which resists all our means of cure; in addition to this, the patient requires a great deal of watching, more than a surgeon in full practice is able to devote to each individual; so that, as I mentioned above, Ricord now employs caustic injections very rarely, and prefers prescribing capsules, and the following injection: Sulphate of zinc, acetate of lead, of each fifteen grains; tincture of catechu, one drachm; Sydenham's laudanum, one drachm; rose water, six ounces and a half. My own practice in London fully bears out this experience, and it is only in old rebellious cases of gleet, in spermatorrhœa, and in chronic affections of the bladder, that I now employ nitrate of silver injections: but in these cases the judicious employment of caustic is of the greatest value, and will at once effect a cure when all other means fail; still, even in these cases, the remedy must be employed with care, otherwise ill consequences will arise.

"In the subacute stages of gonorrhœa, when there is no scalding, but a good deal of discharge, I have found the solution of lead answer best in London, together with copaiba capsules, not taken in large numbers, but at repeated intervals, so as to charge the urine constantly with the essential oil; but I still (as in the last edition of my book) continue to insist that gonorrhœa will rarely be rapidly cured, unless the surgeon takes the precaution to show a patient how to use his syringe, and see that the instrument be properly made. It is worthy of note, that the time of year and the damp weather have a great influence in retarding a cure."

### *Gleet.*

"Many of my readers, will, I am sure, be glad to hear a few particulars on the treatment which has proved most successful in this obstinate affection. It is not my intention to enter into the various pathological changes chronic discharges from the urethra depend upon, or the indications which should be followed out; suffice it for the few lines I can devote to the subject, to state, that in the more obstinate instances the surgeon meets with, Ricord strongly now recommends the employment of bougies of metal.

"These instruments were brought under the notice of the profession by M. Beniquè, and are of various sizes, each number being a little larger than the other; and although employed by their inventor for the treatment of stricture, are now found very useful in old-standing gleets, where we may suppose the canal has undergone some thickening. The employment of these graduated bougies is then one of the remedies I should recommend, gradually increasing the size; and Ricord's experience seems to bear out the strong recommendation which I gave in the last edition of my work 'On Diseases of the Urinary Organs,' p. 119, to employ dilatation, accompanied with injections, in the treatment of gleet.

"Since the publication of my last edition, I have experimented largely with counter-irritation, and I think my success deserves a few moment's consideration. In addition to the means above stated, I am in the

habit of recommending my patients to paint the under surface of the urethra with tincture of iodine every night, as well as applying the liquid to the perineum, so as to produce a slight peeling off of the skin. The remedy is then to be left off, and repeated when the skin has regained its cuticle. In the more chronic cases, I employ a solution of cantharides dissolved in chloroform,\* with which I paint the skin well in the situation mentioned above. The chloroform evaporates, leaving the cantharidine *in situ*."

#### *Swelled Testicle.*

"Compression of the testis, by means of strapping, has now been nearly given up by M. Ricord, in his hospital; it is, he still admits, an excellent remedy when well applied, but a patient should be seen, in the early stages, twice a day, and the strapping re-applied if necessary. Without watching, this treatment is sometimes accompanied with disagreeable consequences, which aggravate the complaint, at least the French professor thinks so; but in London, in private practice, I have every reason to be satisfied with the treatment, which shortens the duration of the disease very much, and dispenses with the usual inconveniences attending these cases. M. Ricord places his principal dependence upon leeches, mercurial ointment, and plaster, and, above all, aperient salts, every morning. In this last recommendation, I fully agree."

#### (c) CONCERNING THE UPPER EXTREMITY.

ART. 117.—*On Dislocation forwards of the Upper Extremity of the Radius.* By Mr. TAGERT, Senior Surgeon to Mercer's Hospital.

(*Dublin Quarterly Journal of Medicine*, May, 1854.)

"Dislocation forwards of the upper extremity of the radius is an accident of rare occurrence, often difficult to diagnose, and sometimes foiling the best-directed efforts to reduce it even when recent, Cooper, Cline, and other able surgeons, having failed in their attempts; and in some instances where reduction has been accomplished, it has been found impracticable to prevent a recurrence of the displacement; and further, there are so many points in relation to this injury upon which practical surgeons differ, and which can only be cleared up by an accumulated record of cases, that I am induced to give an example of a dislocation forwards of the head of this bone, lately under my care in Mercer's Hospital, which was successfully and permanently reduced.

CASE.—John Gahan, æt. 38, was admitted into hospital on the 21st of November, 1853, having sustained an injury of the left elbow-joint a few hours previously. He states, that while driving a hackney car, with a passenger and luggage, to one of the railways, his left arm was placed inside a strap, which secured a heavy trunk that he was trying to keep steady; the trunk tilted from its place, dragging him from his seat, and, while endeavouring to save himself from falling, his arm was violently wrenched and he suffered extreme pain. On the evening of his admission, powerful, persistent,

\* This may be procured at Messrs. Bells', Oxford-street.

but ineffectual efforts were made to reduce it by forcibly bending the forearm over the knee placed in the flexure of the joint; and also by strong and continued extension by traction from the hand, and concentrated pressure upon the head of the radius.

He came under my charge on the following morning. I found his forearm slightly flexed and pronated; I could with difficulty bend it to a right angle; further flexure was impossible, a sudden check being given in the attempt. I could not straighten it fully; the efforts to extend it caused him much pain; the head of the radius was absent from its natural position beneath the outer condyle of the humerus; on making pressure at this point, the thumb sank into a yielding hollow; the motions of pronation and supination could be performed for him; the latter movement was somewhat restricted, and increased his pain; the head of the radius could not be felt in its new position, its depth, and thick coverings in a well-developed muscular arm obscuring it. The natural configuration of the limb was not altered except from some slight swelling.

With the judicious and effectual aid of my able colleague, Mr. Butcher, the bone was replaced in the following manner:—The patient was placed in a sitting posture, the trunk being fixed. A handle of a sweeping brush, with a towel wrapped round its centre, was placed in the flexure of the forearm, and maintained in this position by grasping it firmly above and below the elbow-joint. Mr. Butcher with one hand seized hold of that of the patient, and bent the forearm round the brush handle, which was forcibly pulled in an opposite direction, while with the thumb of the other hand he pressed firmly on the upper end of the radius, pushing it towards its natural position, at the same time supinating the forearm and abducting the hand; after employing considerable force in these movements, the bone was reduced, with a prolonged creaking or tearing sound, audible by the class of pupils. The man was conscious of the reduction, exclaiming that it was in, and expressed himself as at once relieved from pain. The forearm could be fully bent, and the patient's hand placed upon his left shoulder; the head of the radius could now be felt in its natural position.

The forearm was next flexed to a right angle, and midway between pronation and supination; an angular splint, well padded was placed on the inner aspect of the arm and forearm, and firmly secured by carefully applied bandages; a sling completed the apparatus; the splint was kept on for a period of six weeks, rarely requiring readjustment; on removing the retentive apparatus, the functions of the arm were perfect, and the patient pursued his ordinary avocation.

Much difference of opinion exists amongst authors and practical surgeons, in reference to the comparative frequency of the displacement of the head of the radius backwards or forwards, and some with considerable experience have never met with either accident.

#### (D) CONCERNING THE LOWER EXTREMITY.

ART. 118.—*The risks of Amputations of the Lower Extremities.*  
By Dr. STONE, Surgeon to the Bellevue Hospital.

(*New York Journal of Medicine*, Sept., 1854.)

In a paper on the amputations of the lower extremities which have recently occurred in the Bellevue Hospital, Dr. Stone's principal

object is to furnish some additional means for solving the question of how far amputation is to be recommended as a means of cure. His summary is as follows :

*Summary of Amputations of the Thigh.*

1. Secondary	Ostitis, with necrosis	Recovered.
2. Primary	Leg crushed by heavy timber	Died.
3. Secondary	Chronic disease, caries of patella	Died.
4. Secondary	Chronic disease of knee	Recovered.
5. Secondary	" " "	Recovered.
6. Secondary	Gangrene of leg; clot in iliac artery	Died.
7. Secondary	Chronic disease of knee	Recovered.
8. Primary	Fract. of both thighs; knee-joint opened	Died.
9. Secondary	Fungus haematoxodes	Recovered.
10. Secondary	Caries of patella, acute synovitis, &c.	Recovered.

None survived the primary amputations, and one fourth of the secondary died. The mortality, in all amputations of the thigh, was 40 per cent.

*Summary of Amputations of the Leg.*

1. Secondary	Chronic disease of the tarsus ostitis	Recovered.
2. Primary	Injury in blasting	Died.
3. Primary	Railroad injury	Died.
4. Primary	" " "	Recovered.
5. Primary	" " "	Died.

" Only one survived after primary amputation of the leg, and that with difficulty, and after a tedious convalescence. We find, on taking both tables, that, out of six primary amputations of the lower extremities, only one lived, which is a mortality of  $83\frac{1}{3}$  per cent., and that the mortality in the secondary amputations was 22 per cent. On combining both primary and secondary, we have a mortality of 7 in 15, equal to  $46\frac{2}{3}$  per cent., in all amputations of the lower extremities.

" We had, for some time, suspected that amputation, in all cases, was a formidable alternative; and in view of the awful mortality, after primary amputations, we are tempted to ask, if it would not be wise to refuse to operate in all cases of severe injury?"

ART. 119.—*On the use of Quinine and Opium in Hip-disease.*  
By Dr. NELSON NIVISON, of Tompkins County, N.Y.

(*New York Journal of Medicine*, May, 1854.)

Dr. Nivison relates three cases in illustration of this treatment, and—as in forming an opinion upon its merits, everything depends upon the correctness of his diagnosis—we give the cases as he relates them. For our own part, we must say that the cases do appear to have been true cases of incipient hip-disease, which were arrested and cured by the treatment. Dr. Nivison argues that there is nothing inconsistent in the expectation that quinine should be beneficial under these

circumstances, seeing that tonics have been proved to be beneficial in some kinds of low inflammation. He also argues that opium is imperatively demanded by the pain and muscular rigidity.

The cases are as follows :

CASE 1.—The first case that I shall notice was a child two and a half years old. I was called Oct. 18th, 1851. I got from the mother the following history: The child had usually been healthy till about six weeks previous to my visit, when it was attacked with a pretty severe fever of a remittent type, which lasted about ten days. A physician was called, who administered some mild remedies, under the use of which the febrile symptoms gradually subsided. The child, however, did not improve in appearance, strength, or appetite, but seemed rather to decline. In a few days after the more violent febrile symptoms had subsided, the child began to manifest symptoms of inability to walk or even stand, would fall frequently, and cry violently as if in severe pain; the sleep was disturbed, and the patient became rapidly emaciated. About this time, the left leg was observed to be somewhat bent at the knee, a day or two later at the hip, with considerable rigidity of the muscles. It would not allow the limb to be moved if possible to prevent it; every accidental movement was productive of much pain. At this stage of the matter, the mother had occasion to spend a couple of weeks from home; and, hoping the child might be benefited by the change, she took it with her. The symptoms grew worse. A physician was called. He pronounced it a case of hip-disease, and treated it accordingly; precisely what the treatment had been, beyond the application of a blister and some Dover's powders, I could not ascertain. Under the treatment, however, there was considerable amelioration of the symptoms. The child was brought home, and the treatment discontinued. In a few days all the unfavorable symptoms returned, with increased severity, and continued steadily to grow worse to the time of my visit. I found the little patient much emaciated, with a pallid countenance, a hectic flush on the cheek, and, although at the time sleeping somewhat quietly in the cradle, I noticed those convulsive twitchings, and distortions of the features, that told but too plainly of the violence already done to the integrity of the nervous system. Pulse small, quick, frequent, and somewhat irregular; the left thigh was drawn to nearly a right angle with the body, and the leg was flexed on the thigh. The whole limb was in a state of abduction; this, with a certain amount of apparent shortening, gave the limb somewhat the appearance of a dislocation, with the head of the femur on the dorsum ilii. The slightest movement of the limb awoke the patient, and his protracted cries were indicative of extreme anguish. I attempted to examine the limb, with a view to determine its true condition, but every movement so manifestly aggravated the sufferings of the little patient, that I was constrained for the time being to abandon it; but from the history and the appearances before me, I saw no reason to doubt the correctness of the diagnosis of the last medical attendant. The parents appeared healthy, but both acknowledged the strumous habit in their ancestry and family kindred.

In summing up the matter, the case appeared to be the sequel of an idiopathic fever, which appeared not to have been very thoroughly treated or satisfactorily overcome. While it existed in this form, it could, doubtless have been completely removed by a liberal use of the sulphate of quinine. Now, if this diseased action is but a different manifestation of the same morbid agency, and no structural disorganization has yet occurred, why should it not now yield to the same remedy? True, a very considerable amount of inflammatory action, with its attendant fever, still exists, and, furthermore,

the much respected authority of precedent would lend but little aid; I nevertheless resolved to give it a trial. I ordered a grain of quinine with one eighth of a grain of morphine to be given every six hours, with additional doses of a solution of morphine, if the pain is not entirely quieted and rest procured by the powders. A stimulating liniment was ordered to be rubbed on the affected part twice a day.

Oct. 20th.—The child has been much more comfortable; rested well, is less feverish, appetite slightly improved. At this visit, I was able to make a tolerably satisfactory examination of the affected limb. Considerable motion can be made at the knee, but no movement of the hip-joint can be borne. In whatever position the child is placed, the thigh remains at the same angle with the body. Continue the treatment.

Oct. 23d.—The symptoms all materially improved; no fever, appetite good, sleeps well, will allow slight motion of the hip-joint without much complaining. In addition to the former treatment, give iodide of potassium, and apply a blister to the hip.

Oct. 26th.—Continues to improve. Blister drew well, but produced considerable disturbance of the nervous system, which was soon quieted by additional doses of the morphine. Continue treatment.

Oct. 28th.—Still improving. Stomach and bowels somewhat irritable. Omit the iodide of potassium. Ordered quinine, gr. xvi, sulph. acid dil. gtt. x, water,  $\frac{3}{4}$ iv, m. A teaspoonful four times a day; an occasional dose of laudanum if necessary, to procure rest.

Nov. 4th.—Improving rapidly. The limb can be brought nearly in a right line with the body. Occasionally puts the foot to the floor and makes some rather unsuccessful attempts to walk. Continue the solution of quinine.

Nov. 11th.—The limb can be moved in almost any direction without pain. The patient can walk about the room; appetite continues good; he is allowed a generous diet, and is gaining flesh. Nothing of special interest occurred after this. The solution of quinine was continued a week or two longer, and the patient was dismissed cured.

CASE 2 was a boy 12 years old. In the latter part of May, 1853, he was thrown from a wagon, by which accident he received considerable injury of the right leg, which appeared to be mostly in the vicinity of the ankle-joint; pain was complained of along the course of the fibula, and the parts were considerably swollen. But the affair was regarded as trifling, and, aside from the application of severe stimulating embrocations, and advising that the parts be kept at rest, nothing was done.

I heard nothing more of the patient till the 18th of June following, when, I was called to visit him. I was told that he had suffered considerable pain in the limb most of the time since the injury; he had been able to walk but little. The swelling had nearly subsided, and the pain was now mostly in the vicinity of the knee; there had been more or less fever every day, generally worse on alternate days; he had passed restless nights, lost his appetite and was losing flesh, and becoming peevish and fretful. He had a pallid countenance, a frequent pulse, and a furred tongue. The bowels being confined, I ordered a laxative, and agreed to see the boy the following day.

June 19th.—Was called early this morning to see the boy; found him complaining of excruciating pain in the knee and hip. I learned that he retired last night apparently as well as usual, and slept quietly during the early part of the night, but towards morning suddenly awoke, complaining of this intense pain, which had been unintermitting up to the time of my visit. The leg is now rigidly flexed upon the thigh, and the thigh on the pelvis, and the whole limb in a state of *abduction*, or drawn from the other. This posi-

tion, I believe, is rather unusual in hip-joint disease. I notice, however, that Prof. March, of Albany, in his very valuable paper, read before the American Medical Association, mentions a case where the position of the parts was precisely similar. The boy refers the pain principally to the *knee*, and believes this joint to be the seat of the difficulty; fomentations have been freely applied to this part without relief. I found, however, that *motion* of this joint is less painful than of the hip. This directed my attention to that joint, and further investigation satisfied me that here was the real difficulty. The fact that the *pain* was mostly in the knee, rather confirmed this view of the case than otherwise, and again the previous constitutional disturbance had been altogether disproportioned to the slight injury in the vicinity of the ankle, and furthermore an inflammation of the hip-joint usually comes on rather insidiously. This, in connection with the fact that the boy was evidently of a strumous habit, could leave but little doubt that we had to deal with a case of hip-disease.

Being firmly impressed with the conviction that, in the former case, the sulphate of quinine, in combination with the opiates, were the chief agents in removing the morbid conditions of the system, upon which this species of diseased action usually depends, I determined to test it still further in this case. I therefore directed two grains of quinine, with a grain and a half of opium, to be given immediately, and to be repeated every six hours, and a quarter of a grain of morphine every hour till the pain is subdued.

June 20th.—The boy is more quiet, has taken the powders regularly, but was obliged in addition to take the morphine very freely. The limb remains in the same position, will admit of some motion at the knee, but the least movement of the hip-joint is exceedingly painful; considerable tenderness is manifest on pressure about the hip. Continue the powders. Rub the parts twice a day with comp. camph. liniment.

June 22d.—Yesterday the boy had an uncomfortable day, several paroxysms of pain occurred that were represented as almost intolerable; used the morphine very freely; slept a part of the last night rather quietly, but if he chanced to make the least movement of the affected joint, the pain produced thereby awoke him instantly, and he was usually unable to sleep again till the morphine had been repeated. He is comparatively comfortable to-day, the knee-joint can be moved without pain, but can bear no motion at the hip; countenance more animated, no fever, tongue cleaner, appetite somewhat improved. Owing to the extreme pain produced by change of position, the bowels have not been opened in several days. Continue the powders; give pil. hydrg. gr. viii, at bed-time; follow with castor-oil in the morning.

June 24th.—The boy is better. When perfectly at rest complains of no pain whatever. Had one or two pretty severe paroxysms of pain yesterday; was obliged to use the morphine; with that exception, the powders of quinine and opium have kept him comfortable; will allow a limited motion of the hip-joint. The tenderness about the joint is diminishing. The knee is no longer painful, appetite good, tongue nearly clean. Continue the powders, apply a blister to the hip, and allow a generous diet.

June 27th.—Continues rapidly to improve; considerable freedom of motion is allowed at the hip; succeeded in bringing the affected limb nearly *parallel* to the other, without producing much pain. There is marked improvement of the general health; the morphine has been used but two or three times since last visit. Continue the quinine and opium.

June 29th.—Still improving. The limb can be restored to its natural position, and moved in almost any direction, with but trifling pain. Reduce the powders to R, quin., opii  $\ddot{a}a$ , gr. j, m., one every six hours.

July 4th.—The boy can walk about the room; but complains occasionally of an obscure pain in the hip-joint. Take a grain of quinine three times a day, with an occasional pill of opium if necessary.

July 10th.—The patient is apparently well; ordered some vegetable bitters, and discharged him. He has enjoyed good health up to the present time.

CASE 3 occurred in August, 1853; the patient was a little girl about 6 years old. At my first visit, the mother informed me, that about two weeks previous, in climbing a fence, and endeavouring to reach the fruit of a cherry tree, she fell to the ground, striking upon the left hip; but beyond a slight limping, and occasionally a little pain, nothing of special importance occurred till the time I was called. I then found her complaining of excruciating pain in the left knee and hip; this pain had come on suddenly, and at first in paroxysms, but had now become constant; at each paroxysm the limb was drawn more and more from its normal position, and when I first saw it, it had assumed a position corresponding precisely with that of the last-mentioned case. The mother said she had always been a "weakly" child, and from appearances, I was satisfied that she was of the strumous habit. The subsequent history and treatment of this case correspond so nearly with the foregoing case, that I deem it unnecessary to give the details. The only essential difference in the treatment was that this case was treated *exclusively* with quinine and opium; no counter-irritation or local treatment of any kind was made use of. The case terminated in health in about three weeks.

ART. 120.—*Case of Excision of the head of the Femur.*  
By Dr. PARKMAN.

(*American Quarterly Journal of Med. Science*, April, 1854.)

This case is taken from the records of the Boston Society of Medical Improvement. The name of the hospital in which it occurred is not stated.

CASE.—A boy, æt. 12, entered the hospital May 9, presenting the usual symptoms of hip-disease of the right side, in a somewhat advanced form, and which was said to have existed six months; its probable existence was, however, longer. During the summer, the symptoms became more and more aggravated, and large abscesses opened in the groin, on the inside of the thigh, and on the nates; and the limb was very much retracted by the distortion of the pelvis, from the patient's necessary position on the left side, and the impossibility of employing extension, or similar means. Hectic symptoms also supervened, and at two periods he seemed likely to be carried off by a profuse diarrhoea. Under these circumstances, it was decided to lay open the abscess on the nates, which had now dissected the skin from below the trochanter, almost to the crest of the ilium, and to make an examination of the condition of the joint, with a view of removing the head of the femur, if such a course should appear indicated. For this purpose, on October 19, the patient being thoroughly etherized, the abscess over the joint was freely laid open and the skin, gaping, disclosed a granulating surface of six inches square. The head of the bone was in the socket, but on rotation of the limb, the crepitus which was felt clearly indicated extensive caries. An opening was therefore made through the upper part of the capsular ligament, and, the round ligament having been already destroyed by the disease, the head of the bone was turned from the socket and removed, at the middle of the neck, by a strong pair of cutting forceps. The acetabulum was felt to be

carious in about one quarter of its extent, but of course nothing was done to this. Since the operation, the patient's progress has been most satisfactory. The large granulating surface has been slowly contracting; the limb is drawn down by weights, and the constitutional symptoms have entirely disappeared. There is good appetite, no diarrhoea, a marked increase of flesh, and every prospect of a favorable termination.

The specimen exhibited the removal of the entire cartilage from the articulating surface, with a necrosis and commencing line of separation of all the denuded parts. It was clear that the result of such a case, if left to nature, and provided the powers of the patient had held out, of which there was little probability, would have been a large sequestrum in the cavity of the joint and any attempts on the part of nature, to discharge this by ulceration, would in all probability have proved abortive.

Jan. 27.—The patient continues to make very satisfactory progress, and there are no constitutional symptoms.

**ART. 121.—*Case of Dislocation of both Femora into the Obturator Foramina.*** By Dr. THOMAS C. BARKER, of Barbacoas, New Grenada.

(*American Quarterly Journal of Med. Science*, April, 1854.)

The head of the left femur was forced through the obturator foramen corresponding to it, into the cavity of the pelvis, and this greatly complicated the difficulties of reduction. The rest of the story is best told in Dr. Barker's own words.

**CASE.**—The subject of this dislocation was Jeremiah S—, an Irishman, æt. 19, of a rather slender form, a tailor by trade, but employed here as a waiter upon the table.

Early on Monday afternoon, October 17, the patient was crossing the Rio Chagres, upon the scaffolding employed in the erection of the railroad bridge across the river at this place, when he slipped and fell, feet foremost, a distance of some twenty-five or thirty feet upon the sand on the bank of the river, and, striking upon the inner sides of his thighs, they were forcibly thrown apart, and the heads of both femora were dislocated into the obturator foramina respectively of each side. The thighs were directed forwards and outwards, and flexed at an obtuse angle upon the pelvis; but which angle approximated much nearer to a right angle than is generally represented in the books which treat of this dislocation.

Complete extension could not be made of the thighs upon the pelvis, nor of the legs upon the thighs, though the thighs could be flexed at an acute angle upon the pelvis, and the legs could be flexed at a like angle upon the thighs. No serious injury, other than the dislocations, was received by the patient.

I was called to the patient, where he fell, in a few minutes after the accident had occurred; and he was immediately removed to the shanty near by, which was occupied as a hospital upon the San Pablo Station of the railroad.

Dr. Foot, one of my colleagues of the medical staff on the Panama Railroad, from a neighbouring station, was present at the time upon this station.

We laboured, for nearly two hours, to reduce the dislocations by means of manual traction and manipulation; blankets (the only apparatus at hand) being applied for making extension and counter-extension, in which we were

aided by assistants. All our exertions to withdraw the head of either of the femora from its unnatural position were, however, entirely unavailing. Late the same afternoon we renewed our efforts, but with the same ineffectual results. It need hardly be said that we made extension in those directions and by those methods which are laid down as the best in standard works upon surgery, and which I had previously found effectual in similar dislocations. But we were disadvantageously situated, for we were unable to procure two yards even of cord or rope, or any pulleys upon the station.

Further attempts at reduction of the dislocations were discontinued for that day, and an anodyne was administered to the patient. The next morning (Tuesday, the 18th), it was found that he had passed the night without any severe suffering.

No attempt was made that day to reduce the dislocations, and it became necessary to go to Aspinwall, twenty-four miles, to procure compound pulleys, cord, and swathes, which were not obtained till the next day (Wednesday, the 19th).

Dr. Foot was present to assist; and I had the aid also of Dr. Rogers and Dr. Loving, my colleagues of the medical staff from neighbouring stations upon the railroad.

Early in the afternoon of Wednesday, the 19th, we commenced our operations upon the patient. We first put him under the influence of chloroform; and, after the muscles had become apparently relaxed, we made use of manual traction and manipulation, but without any perceptible effect in removing the head of either femur from its abnormal position. We next resorted to the use of the compound pulleys. Having secured the pelvis by a swathe passed around it and padded with cotton-batting, to which was attached a cord, to a post in the wall for counter-extension, we then made gradually increased, steady, and continuous extension upon the right thigh by means of a swathe passed around it, to which was attached a cord from the compound pulleys; but we found that though the patient, by inhaling the chloroform, was reduced to a state of unconsciousness, and the muscular system was flaccid and powerless, yet, whenever any traction was made upon the limb, an involuntary and spasmoid rigidity was induced in the muscles upon which traction was made; and often, not in those muscles alone, but in those of almost the whole voluntary muscular system. This we could overcome only by continuing the extension steadily and unremittingly while we kept the patient under the continued influence of chloroform.

At length, by the aid of the compound pulleys, we succeeded in dislodging the head of the right femur from its position upon the obturator foramen, and in reducing it into place. This was effected in the method recommended by Fergusson, Miller, and other surgical authors.

We next commenced operations, by means of the compound pulleys, upon the left thigh in a manner similar to that which we had adopted with the right one, and we laboured for nearly an hour, but without any favorable results. But, finding the patient much exhausted from the continued exertions at extension and from the effects of the chloroform, we desisted from any further efforts that day, and, an anodyne having been administered to him, all further attempts at reduction were postponed till the next day.

About 11 o'clock, the forenoon of the next day (Thursday, October 20), we again resumed our operations upon the patient, who had rested better, perhaps, during the night previous, than could have been anticipated. We first constructed a firm and narrow couch, by placing boards upon two forms, with a hard mattress upon the boards. The patient was then laid upon the mattress on his back, and a stout swathe of sheeting, with cotton-batting

between it and the patient's body, was passed across and in front of the pelvis, and then brought under the boards of the couch, where it was firmly secured, and a stick was placed in it, by turning which, the swathe under the couch would be twisted and consequently tightened.

This day, we combined one part of sulphuric ether with two parts of chloroform, and we found anaesthesia more easily produced, and that the depression was less, from this combination, than from pure chloroform, which we had used the previous day.

But we laboured from two to three hours without any beneficial results, though we varied the direction of our extension, resorting to all the methods which are recommended for the reduction of this dislocation. And though we made a most thorough trial of the mode recommended by Fergusson and Miller, which had been successful in the reduction of the right thigh, it utterly failed with the left one.

This day, we all perceived what a part of us had thought we detected the day previous, a crepitus and a jerky movement upon "slackening up" the cord on the pulleys after extension had been made forward from the patient's body and downwards towards his feet.

Upon examination per anum, the head of the left femur could be plainly felt through the walls of the rectum, projecting through the obturator foramen into the pelvic cavity, and its motions could be distinctly perceived when the thigh was rotated.

As the patient was somewhat fatigued, we left him to repose for more than an hour, and we then began our operations upon him again.

The patient, having been again put under the influence of the combination of chloroform with sulphuric ether, the left thigh was strongly flexed upon the pelvis; thus making a fulcrum, like a cushion, of the soft parts upon the anterior portions of the thigh and the pelvis; so that, in this position, only moderate pressure made upon the knee was requisite to raise the head of the bone entirely out of the cavity of the pelvis.

A swathe having been applied round the left thigh, a cord from the compound pulleys was attached to it, and the pulleys were affixed to a beam some six or eight feet above the couch.

Extension was then made, in the line of flexion upwards, towards the patient's head, at an angle of about fifty degrees from the horizontal plane of his body, and about twenty-five degrees, laterally, from the vertical median plane. And this extension was moderately strong, and steadily continued, while counter-extension was maintained by the couch upon which the patient was fixed, being kept immovable by assistants sitting upon it. The direction in which extension was made was, at times, slightly varied, yet the general course in which it was continued was the same; and manipulation, by rotating the thigh, was at the same time practised.

After some ten or fifteen minutes of persevering and unremitting effort, the patient, meanwhile, being kept under the influence of the anaesthetic compound, the head of the femur (it having been previously withdrawn, as before described, through the obturator foramen, from the cavity of the pelvis) was returned to its place in the acetabulum. The crepitus, which had been observed, must have been produced by the friction of the head of the femur against the margin of the obturator foramen.

A pillow was placed between the patient's lower extremities, and they were confined together by two swathes; he was allowed to have some brandy and water; and a full dose of solution of morphia was afterwards given to him before bedtime. He passed a very comfortable night.

He continued to improve in health and strength afterwards; and though

there remained some slight degree of stiffness and soreness about the left hip for some time, he is now perfectly recovered.

The swathes were retained about his thighs and legs, and he was kept quiet in bed for a few days. But within ten days after the reduction of the dislocation of the left femur he was walking about, and was able to perform the duties of his situation.

**ART. 122.—Successful Excision of a Neuromatous Tumour from the Sciatic Nerve, without division of the nerve.** By Mr. BICKERSTETH, of Liverpool.

(*Edinburgh Monthly Journal*, Aug., 1854.)

Three different methods have been adopted for the removal of this disease: they are amputation of the limb, excision of the tumour with the nerve, and excision without removal of the nerve. The first two are sufficiently simple and satisfactory in their results. The last is always dangerous, and has frequently proved fatal from the intense inflammation which is set up in the nerve, and the parts which it supplies. It has been repeatedly shown by operation that an inch or more of the main trunk of a nerve may be cut out, and yet only temporary paralysis be the consequence. In a marvellously short time reunion takes place, and the paralysis is recovered from. This is more remarkable in the lower animals than in man. In the horse, for instance, there is an operation still practised for the cure of lameness, which consists in the excision of three inches of the nerve supplying the foot with sensation. It cures for a time, but in a very few months the animal goes lame again, and when it is killed the nerve is found complete, as if no part of it had been removed. Mr. Bickersteth proceeds:—"In the case here recorded, it would have required at least three inches of the nerve to have been excised, including the commencement of both the internal and external popliteal nerves, and this I was afraid to do, lest permanent paralysis of the leg and foot should result—a condition less desirable than loss of the limb by amputation. I determined, therefore, under these circumstances, to run the risk of leaving the nerve entire, and the result has fortunately proved satisfactory, although, I confess, the proceeding was accompanied with great danger.

"Should I again meet with a similar case, I think I should adopt the same plan, but should afterwards take the precaution of cutting across the trunk of the nerve, either above or below the tumour; by doing so, I am inclined to think the danger of this operation would be greatly lessened, for the limb having ceased to receive its nervous supply through the injured trunk, inflammation of it might afterwards take place with comparative impunity, and little or no risk be run of the paralysis continuing for more than a short period."

**CASE.**—Alfred King, æt. 9, a delicate-looking and extremely emaciated boy, was brought to me about the middle of January, 1853, suffering from excessive and constant pain, of a peculiar character, in the left leg and foot, and from a tumour on the posterior part of the thigh, about three inches above the centre of the popliteal space.

His mother gave me the following history: About twelve months before, the boy, who was always considered delicate, began to complain of frequent cramp in the sole of the left foot. It disabled him from walking, for whenever he attempted to extend the leg, so as to place the foot flat on the ground, it brought on violent pain. After a while the pain became more severe, and extended up the posterior part of the leg, as high as the knee. It troubled him night and day, coming on in sudden paroxysms of "violent cramping pain," lasting for a minute or more, and then ceasing with equal abruptness. It made him cry out sharply, and the only thing that gave the least relief was rubbing the leg firmly, or pressing the sole of the foot between his hands. About four months before he came under my care, his mother discovered a hard swelling at the back of the thigh, and she thinks it has been slowly increasing since. It was exceedingly sensitive, and when touched brought on the pain in the foot and leg. For the last three months the poor lad has had no rest. His mother states she is sure he has not slept five minutes together for many weeks. He has sat up in bed all night holding and pressing the foot with his hands, and crying out with sudden pain every few minutes. He has refused to take food, and has become so emaciated and worn out, as to be hardly able to support himself, without assistance, in the sitting posture. The knee-joint has gradually become flexed, and now he is unable to extend it beyond a right angle.

On examination the tumour was found so excessively sensitive that it was not possible to ascertain its exact characters. It formed a slight prominence in the middle of the back of the thigh, and appeared to be deeply lodged between the external and internal flexors of the leg, just at the part where they begin to separate to form the upper boundaries of the popliteal space.

The peculiar character of the pain, the situation of the tumour, and the history, confirmed me in the impression that the case was one of neuroma. Several applications were tried in the hope of affording relief, but in vain. The friends were earnestly desirous that the tumour should be removed, and at their request I undertook the operation, having first fully explained the possible consequences.

Feb. 8, 1853.—The boy being under the influence of chloroform, I made an incision over the surface of the tumour, from about four inches below the fold of the nates to the middle of the popliteal space. Having divided the fascia to the same extent, the tumour was immediately brought into view, and a little dissection at its upper and lower borders plainly revealed the great sciatic nerve expanding and enveloping the tumour, and passing off again at its lower part, in the form of two distinct nerves, separate from each other about three fourths of an inch, and gradually diverging towards the inner and outer margins of the popliteal space. The tumour was the size and shape of a hen's egg; its surface was rather irregular, being slightly lobulated and fissured in the longitudinal direction by the passage of the nerve fibrils, which lay along the grooves. They were very sparingly scattered over its posterior surface, but laterally were more abundant. I made an incision through the capsule of the tumour, and then, partly with a blunt hook, and partly with a bistoury, I carefully reflected the nerve fibrils, together with their connecting membrane, which constituted also the capsule of the tumour. In this manner the tumour was very easily turned out from its bed. A good deal of troublesome bleeding from minute vessels in the interior of the nerve, followed this proceeding, and after other means of checking it had been ineffectually tried, it was found necessary to place a ligature on three or four points. In doing so the greatest care was taken not to include any of the

nerve structure. Several stitches of the interrupted suture were introduced, and the wound dressed with the water dressing.

The boy was quite comfortable a couple of hours after the operation, and slept better the next night than for many weeks before. Sensation was perfect in the limb. It retained its natural heat, and he could move the foot and toes. The day following, Feb. 9th, the skin looked red, and the thigh was slightly swelled, so that it was necessary to remove the sutures and put on a poultice. The inflammation increased, the foot and leg became anasarcaous, and after a few days, diffuse erysipelatous inflammation attacked the whole extremity, and spread over the scrotum and lower part of the back. Extensive incisions through the scrotum and upon the front of the leg and foot were required, for the parts threatened to become gangrenous. As it was, a part of the scrotum sloughed away. The constitutional symptoms were very severe, and for several days I almost despaired of his life. Under the free use of wine and bark, with frequent small doses of morphia, he slowly rallied, and the inflammation subsided, but his recovery was greatly retarded by several relapses, and the formation of abscesses about the leg and foot. It was between three and four months after the operation before I could consider him cured, and he was able to walk about without lameness. Since then, and up to the present time, he has continued well; he has had no return of the pain, and can run about as well as any other child.

The tumour on examination proved to be formed of fibro-cellular structure. It was a pale grey colour, and rather soft and friable, so that it easily broke when bent or squeezed between the fingers. Its consistence was uniform, and it had no appearance of degeneration.

ART. 123.—*Pirogoff's modification of Syme's Amputation.*  
By Mr. —

(*Medical Times and Gazette*, May 30, 1854.)

The point in which Pirogoff's operation differs from that of Mr. Syme, is the preservation of the posterior portion of the os calcis, which is left to fill up the heel-flap. The proceeding is obvious, and easy of execution. The incisions are made exactly as directed by Mr. Syme: after practising the first from one malleolus across to the other, the operator need only prepare the integuments about a line or two backwards from the inferior surface of the os calcis; he then proceeds to the execution of the second incision across the front of the joint; the astragalus is then disarticulated, and the os calcis divided by the saw behind the posterior extremity of the astragalus. The posterior extremity of the os calcis is preserved by this proceeding, instead of the whole being peeled out, as in Mr. Syme's operation, the heel-flap is thus completely filled out by the bone. After this the saw is applied to separate the malleoli, and a thin slice of the articular surface of the tibia; the cut surface of the last-named bone is then brought into apposition with the cut surface of the os calcis, and the skin-flaps are accurately united by sutures. The advantages of this operation are obvious:—1st, We obtain a longer stump than by Mr. Syme's operation, and the extremity of the stump is firmer, and better adapted to bear pressure with impunity. 2dly, The healing process takes place more quickly, and is less likely to be retarded and

disturbed, than after Mr. Syme's operation, the cavity of the heel-flap being filled up by the bone. 3dly, There is no danger of the heel-flap being deprived of the necessary supply of blood, as it is easy to avoid dividing the posterior tibial artery high up in the wound, an accident often happens during the execution of Mr. Syme's operation, even in the most skilful hands.

**ART. 124.—*On the lines of incision suitable for the removal of one or more of the Tarsal Bones, and for Amputation at the Ankle-joint if necessary.* By Mr. TEALE, Surgeon to the Leeds Infirmary.**

(*Medical Times and Gazette*, May 27, 1854.)

Operations at the tarsus having become frequent, and the modes of performing them various, it is desirable to determine generally upon some operative proceeding, which would afford easy access to the tarsal bones, and at the same time be compatible with the removal of the entire foot at the ankle-joint, should the disease of the bones, as disclosed during the progress of the operation, be found to be too extensive to allow of a reasonable hope of preserving the foot. Mr. Teale proceeds :

“ The following mode of operating appears to me to afford these advantages.

“ A transverse incision is made across the sole of the foot, commencing about three-quarters of an inch in front of one malleolus, and ending at a similar point in front of the other malleolus. A second incision is then made in the median line, beginning over the tendo-Achillis, on a level with the ankle-joint, and joining the former at right angles in the sole of the foot. The two lateral flaps thus marked out being dissected upwards close to the bones, the calcaneum and astragalus are freely exposed. By division of their ligamentous and tendinous connexions, one or both of these bones may be easily removed; and should it be thought desirable to remove also other bones of the tarsus, they may be readily reached by extending the median incision a little forwards. If from the great extent of disease, it is found necessary to remove the entire foot, it may be accomplished by uniting the two extremities of the transverse incision by a curved incision across the dorsum of the foot. Even where it is originally intended to amputate at the ankle-joint, the operation by two lateral flaps, as here described, affords much greater facilities, as I have experienced, than the ordinary mode of detaching the soft parts in one flap or bag from the calcaneum.

“ My present object being chiefly to describe a mode of operating, and not to discuss the general question of the propriety of removing one or more diseased bones of the tarsus, I will merely on the latter point state my conviction, which is somewhat strengthened by the following case, that such operations are of doubtful propriety when the disease is of a strumous character, originating in the cancellous structure of the bones; since, in this affection, after the removal of one or more carious bones, the exposed articular surfaces of the neighbouring bones may appear healthy, even while their cancellous

structure is in an early stage of the disease. Whereas, in those cases of caries which have originated in disease of the ligaments or synovial membrane, the full extent of the disease is more likely to be exposed to the observation of the operator.

"This objection, founded upon the strumous character of the disease, applies with much less force to the excision of joints like the elbow, which allow of the removal of the articular ends of all the bones entering into their composition.

"The disease of the tarsus in the following case, contrary to the expectation which from its history I had formed, proved to be an affection of the cancellous structure of the bones; and the result is rendered less satisfactory than I could have wished from the probable development of strumous disease in other bones than those which were chiefly and primarily affected; yet the case is, in my opinion, of sufficient importance to be put on record, as showing the facility afforded for removing several of the tarsal bones by the mode of operating here recommended—the slight amount of deformity resulting from the removal of three of the larger tarsal bones—and the free power of moving the foot upon the leg which the patient can exercise by the voluntary action of his muscles."

CASE (reported by Mr. Greenwood).—Aquila Masson, of Bingley, a tall, thin man, æt. 24 years, was admitted into the Leeds Infirmary, under the care of Mr. Teale, July 18th, 1853, for disease of the right tarsus. His family is healthy and long-lived. He has enjoyed good health until about two years before his admission, when, from the stumbling of a horse, his foot became entangled in the stirrup, and severely sprained. An extremely tense and painful swelling, as large as a hen's egg, was observed a few days afterwards on the outside of the ankle. At the end of five months he still suffered greatly. The swelling continued of nearly the same size, but rather less painful. A few weeks later the pain had ceased, but the swelling continued. By the advice of a quack, a hard pad was placed over the affected part, and the whole foot was firmly encased in a thick leathern boot, with iron sole. Pain immediately followed. The pressure was kept up for a month, during which time he suffered from intense pain, sleeplessness, and loss of appetite; suppuration occurred, and he rapidly emaciated.

In this state he was admitted into the Infirmary. Several sinuses communicated with the astragalus and calcaneum. The metatarsus appeared free from disease, and the tibio-tarsal joint appeared unaffected. After being confined to bed for a fortnight, and allowed generous diet, his strength was so much recruited, that the excision of the carious bones was decided upon.

July 30th.—The patient having been placed under the influence of chloroform, Mr. Teale commenced an incision by plunging the point of a French bistoury down to the bone in front of the outer malleolus, at a distance of three-quarters of an inch from it. This incision was carried across the sole of the foot, and ended at a point situated three-quarters of an inch in front of the inner malleolus. By this incision the soft parts were divided down to the bones, and the calcaneo-cuboid joint opened. A second incision was now made in the median line, beginning posteriorly at a level with the ankle-joint, and extending along the tendo Achillis, and under surface of the calcaneum, until it met the former incision in the sole of the foot. The two lateral flaps thus formed being dissected upwards, and the ligamentous connections of the calcaneum divided, this bone was quickly detached. The under surface of the

astragalus being now ascertained to be carious, this bone was in like manner quickly removed. The median incision was now extended a little forwards, to give more easy access to the cuboid, which was also diseased. The removal of this bone occupied a little more time than that of the former, but it was accomplished without difficulty. After a careful examination of the articular surfaces of the tibia and fibula, and the exposed tarsal bones, no further disease was observed. A few small vessels were secured. The flaps were placed in apposition, and covered by wet lint, supported by a light bandage.

Six hours after the operation the wound was cleansed from clotted blood, and, after being united by sutures, was covered with wet lint. The limb was laid on the outer side, in a flexed position, upon a leg-splint.

On examining the bones which had been removed, the cartilages were found ulcerated in several places, and the whole cancellous structure softened, so as to admit of their being readily cut by a scalpel.

August 3d.—He has proceeded favourably. Sutures removed; wound united at several points; no sloughing. The flaps supported by adhesive straps, covered with lint wet with myrrh lotion.

4th.—Rather copious discharge of healthy-looking pus; pulse 116; tongue clean and moist; he complains of hunger. To be allowed meat and a little beer.

12th.—Since the last report he has gradually gained strength. Pulse 90; appetite good.

17th.—The whole lines of incision are healed, except in front of the outer malleolus, from which part purulent matter is discharged.

23d.—His general condition much improved; pulse 80; the discharge has lost much of its purulent character, and now resembles synovia mixed with a little pus.

September 16.—There is still a free discharge of synovia; considerable deposition of solid matter (fibrous) has taken place between the flaps, so as to compensate in appearance for the loss of bone. Two drachms of tincture of iodine to be injected into the synovial fistula.

19th.—A very slight degree of inflammation followed the injection. To-day the discharge is much diminished. The foot admits of considerable flexion and extension. Gentle passive motion to be used daily.

20th.—To be an out-patient.

December 14th.—With the assistance of a crutch he can walk pretty comfortably. By the action of his muscles he can freely move the foot upon the tibia and fibula. The vacant space caused by the removal of the bones has been so completely filled up by new fibrous substance, that but little deformity is observable. A slight discharge of synovia continues. Some of the original sores have not quite healed, but they look healthy.

February, 1854.—During the beginning of this month, after exercising the foot more freely than usual, considerable swelling occurred, and an abscess formed at the side of the foot. Thick purulent matter was removed by incision, when the pain ceased, and the swelling greatly subsided; but still there was a general, although moderate, enlargement of the foot, which led to a suspicion that the front row of tarsal bones might be taking on diseased action.

May 3d.—He is much the same as at the last report. A little matter is discharged from two or three sinuses, and there is some thickening of the metatarsal portion of the foot. The posterior half of the foot has nearly its natural form. He has the power of freely flexing and extending the foot, and he can bear firm pressure on the heel.

ART. 125.—*Cases of dislocation of the Astragalus.* By (1) Mr. TUFFNELL, Surgeon to the City of Dublin Hospital; and (2) Dr. ROBERTSON, Lecturer on Midwifery in the Charlestown Medical Institution.

1. (*Dublin Medical Press*, Dec. 28, 1853.)

2. (*American Quart. Jour. of Med. Science*, April, 1854.)

In Mr. Tuffnell's case, reduction was effected; in Dr. Robertson's case, the bone had to be removed.

Mr. Tuffnell makes some very valuable remarks upon what should be done in cases where reduction can not be effected, i.e., in the majority of cases, and with these we preface the relation of the cases themselves. Mr. Tuffnell proceeds:

“In forty-six cases of this accident recorded by Mr. Turner, of Manchester, I find six only to have been completely reduced; and of these six, three were accompanied by fracture, one of the tibia alone, second of the tibia and fibula, and the third of the oscalcis.

“In two cases the bone was partially reduced; in ten, it was suffered to remain in its new situation; in six, it was partially excised; in eighteen, it was wholly excised; and, in four, the limb itself was removed by amputation. Of these forty-six cases, sixteen were simple dislocations, and thirty were complicated or compound. It is with the first only that we have now to deal.

“Of these sixteen cases, then, three were reduced, the patients regaining useful feet. In eight instances the astragalus was left undisturbed in its new position. Five of these cases did well, but the form of luxation in each was the same, namely, that directly backwards, “the astragalus, resting in the interval between the posterior part of the tibia and the tendo-Achillis, a spot sufficiently spacious to give occupancy to the dislocated bone without much removal of the tendon of the heel, and without direct pressure on the integuments of this region.” In the other three cases, where the bone was suffered to remain, and where the direction of the dislocated bone was either *forwards, forwards* and *outwards*, or *forwards and inwards*, there was a far different result. In the first, there was a permanent deformity; in the second, ankylosis of the joint; and, in the third, permanent deformity and lameness.

“In the *single case of partial excision*, there was a useful foot; and in the *two cases of complete excision*, there was the same result. The remaining two cases were submitted to amputation. We have left, then, for consideration, out of these sixteen cases of simple dislocation (after deducting the three reduced and the five luxated backwards as not appertaining to the form of dislocation now before us), eight cases from which to draw our conclusions as to the mode of treatment to be adopted, namely, whether to leave the astragalus in its new situation, or to excise it partially or *in toto*.

“Five cases are to be included under the first head, because the two which became subjects for amputation were cases of this kind, where reduction had been attempted and failed, and where the bone had been left to nature. Now, of these five, we find ankylosis of the joint in one, permanent deformity and lameness in two, and loss of limb in the

remainder. This does not argue favorably for allowing the bone to remain. Then as to excision partially or altogether: We have three cases, *one partial*, performed at the time of the accident, and *two complete*, the bone being removed on the thirty-third day in one instance, at the end of ten weeks in the other, sloughing having taken place in each. These three cases recovered with useful feet, still, in the two latter, not until the luxated bone had been removed. From the results of these cases, then, it would appear that in simple luxation of the astragalus forwards, forwards and inwards, or forwards and outwards; and, in fact, in all situations, excepting that directly backwards, if the surgeon should be foiled in reduction, he should at once remove the bone; and I would go even further, in the instance of a labouring man, and say, remove the foot by Syme's operation, leaving him Nature's pad, the integument of the heel to stump upon—a far more serviceable termination to his leg than an ankylosed and weighty foot. This I have no hesitation whatever in recommending. I am an advocate for conservative surgery, so far as the objects to be derived from it are *real gains and undoubted advantages* to the individual, such, for instance, as from excision of the elbow-joint, or partial amputation of the hand, whereby a member, though maimed, is left more efficient than any that art and ingenuity could supply. This is right, this is what we should use our every effort to secure. But I say conservative surgery may be overdone, as I feel convinced it often is in the case here before us. I am speaking now from the experience of three cases that have come under my own observation, in each of which the bone was removed at different periods after the receipt of the injury, and in each of which the individual gained what would, I am convinced, be reported as *a useful foot*. This is the point to come to. The question for consideration is the power of progression that remains, the capability of taking exercise, and that exercise which a labouring man must do to enable him to earn his bread. These three cases would, I have no doubt, have been entered in a statistical report as recoveries with *useful feet*, but in neither of these three cases can the individual earn his bread.

"One of these was a patient of my own, from whom I removed the astragalus (or rather, I should say, the greater portion of it, for it was fractured obliquely across, as is so frequently the case) in 1850. He writes to me now (in 1853) in answer to my question as to how he is going on, to say: "I can bear considerable pressure on my foot, and it seems to increase in strength, but I could, *I think, get on better if I had a boot that would support me from the knee*. I cannot yet do any work." This man tells the truth, and explains the matter in a word. *He has a foot that he can use, but he has not a useful foot.* He has a foot that for a clerk in an office, a solicitor, a commissioner, a man of private fortune, &c., &c., would do well enough, and I have no doubt be regarded by each as a very satisfactory cure, but he has not the foot for hard work. Could he have had this? I believe he could. Had I, in 1850, dissected out his entire foot, nipped off the malleoli, and brought up the pad of heel from below, instead of taking out the dislocated astragalus alone, he would not now, in 1853, be suggesting, and of course wishing, for *a support from the knee*. This question of conservative surgery,

too, is to be looked at in another light, viz., its power of diminishing the risk of loss of life. This is, certainly, the all to be regarded point —to it every man must bow, but that argument is not in its favour here. Who that has had experience of the two cases under consideration, namely, the after treatment of a case of open ankle-joint from which the astragalus has either been removed by excision or left to come away, and of Syme's operation performed *for accident* on *healthy structure*, will make a comparison as to the risk of life between the two. Look at the inflammation, suppuration, sloughing, abscesses, and perhaps diffuse inflammation; the water-dressing, poultices, incisions, splints, and swinging-cradles, with three months or more in bed; the opiates, tonics, bark and acid, wine and porter, and change of air, connected with the one, and the two sutures, strap of plaster, light dressing, and slight confinement required for the other. Some will say their experience of the latter does not lead them to regard it with such favour, that cases have occurred which induce them to modify the opinion they once formed. But, recollect, those amputations of the foot were not for *accident*, they were operations for *disease*. This is a different case altogether. Here there are infiltrated tissues, sinuses, ulcerated cartilages, perhaps unhealthy bone, a state of things far different from that of a clean cut through healthy parts; a state of things produced in, if not originated by, a strumous constitution, and which must be taken into account as influencing the one, and having no connection whatever with the other. This leads me to speak as strongly as I do, and I feel convinced that if removal of the foot by Syme's operation be adopted in our hospitals (upon the class of persons who become the subjects of this accident in cases of irreducible dislocation of the astragalus, either simple or compound, excepting always luxation directly backwards), a far better set of extremities in the aggregate will be given to the sufferers than they now have, and that they will, in very many instances, be enabled to labour in ways that they cannot do now.

“There is, however, one modification that I would make, and this is, that in commencing the operation, I would do so in the form most suited in each particular instance for the *mere removal* of the bone; so that if, on dividing the integuments directly over it, I found the astragalus so far detached that I could free it, and bring it *easily* away, and close the joint, I would do so, giving the man the chance; but if I found it firmly attached, both by its connecting ligaments and surrounding textures, having, as it were, to be dug out of the joint, I would then proceed at once to disarticulate the foot.

1. *Mr. Tufnell's Case.*—James O'Brien, æt. 19, a mason's labourer, residing in Power's Court, a thin, active man, was admitted into Martin Ward of the City of Dublin Hospital, at 11 a.m. on the 24th of August last, having a short time previously descended from a scaffold in the neighbourhood of Stephen's Green. The account which he gave of the accident was this: He said that, finding the platform on which he was standing beginning to yield, he sprang from it into the street with as much force as he was capable of using, intending thereby to jump clear of the timber and brickwork, which he thought would fall upon and crush him. He reached the ground in an upright position, alighting upon a broken brick, which

turned with him as his left foot came upon it, and he fell upon his side in excruciating agony. When brought to the hospital, he presented the appearance of a man who had received a severe shock. He was ashy pale, trembling, and cold, feeling sick, and making an occasional effort to vomit.

On examining into the nature of the accident (which, being in the hospital at the time, I did at the moment of his arrival), I found the left foot dislocated inwards from the tibia and fibula, with the astragalus thrown outwards. The particular condition of the parts was the following: Looking at the limb as it rested on the mattress, the calf of the leg lying on the bed, it presented somewhat the appearance of an aggravated case of talipes varus. The sole of the foot looked obliquely inwards, a deep angular hollow existing in the situation of the inner malleolus, with an acutely prominent projection, all but perforating the integument, and white and glistening from extreme tension, presenting at the outer ankle, caused by the malleolar extremity of the fibula, which was all but thrust through the skin. Two inches anterior to this point, lying upon the outer border of the tarsus, external to the last of the tendons of the extensor communis digitorum muscle, was a hard projecting mass of irregularly ovoid form, immediately beneath the skin, formed by the articulating surface of the luxated astragalus.

The foot itself, from the instep to the toes, bore a natural appearance, as did also the sole when viewed from below. The space beneath the internal malleolus, posterior to the scaphoid bone, which should, in the normal state, be occupied by the neck of the astragalus, presented a raised puffy swelling from effused blood. The internal malleolus was sunk deeply, occupying the position of the body of the astragalus, whilst the external malleolus projected directly outwards. The tibia and fibula were uninjured, there being no fracture of either of these bones.

Reduction was attempted (as soon as time had elapsed for taking a cast, or in about an hour from admission into hospital) and effected in the following manner: The patient was laid upon his back, the pelvis fixed, the thigh bent upon the pelvis, and fixed also; the leg bent upon the thigh, and extension made by assistants from a double clove hitch fastened round the foot, whilst direct pressure was put upon the displaced astragalus with the right hand, the foot itself, at the same time, being rotated outwards with the left. In this way reduction was effected, the bones slipping back into position within a minute, and all deformity disappearing at once.

The leg was placed upon a McIntyre's splint, and cold, by the water battery, applied. He was ordered also the following pill to be taken regularly every fourth hour: Rx. Calomel., gr. ii; Pulv. Jacobi ver., gr. i; Pulv. aloes, gr. ij; Pulv. opii, gr.  $\frac{1}{4}$ .

A combination long employed by Dr. Peile in cases of laceration of tendinous structures, and where tetanic affections might be deemed as likely to ensue.

The succeeding day there was effusion into the joint, producing an increase of girth of about one inch. The patient complained, however, of no pain, and said that he felt quite well again. The water dressing was continued until the 30th, when effusion having almost altogether subsided, it was discontinued, and a starch bandage applied. On the 30th of September he was discharged from hospital with the perfect use of his foot, and returned to his daily labour again.

2. *Dr. Robertson's Case.*—Mr. J. B., while in a state of drunken excitement, precipitated himself over the bannisters, and fell upon a flight of stairs about twenty feet below. This was the 10th of July, 1851. Dr. Robertson found the left foot turned completely inwards, and, on attempting to stand, the

outer margin of the foot rested upon the floor. The lower extremity of the fibula was torn from its connections with the tibia and astragalus, and thrown backwards. The astragalus was dislocated forwards and outwards, being completely turned over, or tilted up, so that its superior articulating surface with the tibia and fibula was brought into a vertical position. This caused two prominent points—one, the outer articulating protuberance with the scaphoid; the other, the outer articulating protuberance with the calcis—to project so much as to nearly protrude through the integuments, which were drawn tensely over them, and slightly excoriated.

All attempts at reduction failed, though full advantage was taken of the relaxing influences of chloroform and tartar emetic; and this being the case, the limb was placed in a favorable position and covered with evaporating lotion.

The resulting inflammation ran very high. In a few days the integuments sloughed in two places where they were most stretched by the displaced bone, and the suppuration from the joint and neighbouring parts became profuse. There was also great constitutional disturbance. Under these circumstances it was deemed advisable to remove the bone or the limb, and the former alternative was decided upon. The operation was performed on the 9th of August, 21 days after the accident. Dr. Robertson writes: "A lunated incision was carried from below upwards, through the superior portions of the openings caused by the sloughing of the integuments, descending and terminating in front of the external malleolus, on a level with the tendons which pass under it. The flap was dissected down and turned back. The upper portion of the integuments was turned back also. With the index finger of the left hand as a director, the tendons and anterior tibial artery were protected, and forced as much as possible out of the way; and, with a strong, narrow, straight bistoury, the connections of the bone were severed in that direction. The attachments in front were next divided, and the knife freely passed between the astragalus and calcis. The bone was now seized with a pair of Meigs's embryotomy forceps, which I had selected for the purpose, and forcibly wrenched outwards, while the remaining deep-seated attachments were severed. But slight hemorrhage took place, as no artery requiring a ligature was divided. Upon examining the bone, it was found that the posterior inner protuberance had been fractured; and, on passing the finger into the cavity, the fragments were found to be held by firm ligamentous attachments. These were removed by means of the probe-pointed bistoury and forceps. The flaps were drawn together, and secured by interrupted sutures and adhesive straps, and the whole covered with an emollient poultice."

The adhesive straps were removed on the third day after the operation, and a portion of the edges of the flaps had united by the first intention. In the course of ten days, however, the joint became generally inflamed, with profuse suppuration. Fluctuation was felt over the internal malleolus. It was opened, and, for some days, continued to discharge an ill-conditioned bloody pus; it then gradually closed, leaving a general tenderness over that region, which slowly disappeared.

On the 27th of August, the condition of the patient was decidedly unfavorable. The discharge from the joint was profuse, and unhealthy in character. Considerable exfoliation had taken place from the inferior end of the fibula, and the granulations about the external wound were flabby and unhealthy in appearance. The patient was also suffering greatly from constitutional irritation; in addition to which he had become extremely emaciated. Upon further consideration we determined still to persevere, and

endeavour to save the limb. Our patient was placed upon a generous diet, a pint of Scotch ale per day, and a table-spoonful of the tinct. cinchon. comp. three times a day, and the edges of the wound were daily touched with lunar caustic. Under this course, matters soon assumed a more favorable aspect, and his improvement was now rapid. On the 12th September he was so far recovered as to be able to draw on a stocking and loose slipper, and take exercise with the assistance of crutches. About the 1st of October he left for his residence in a distant State, the external wound having healed to a mere point.

"He was heard from on the 12th December. The external wound had entirely healed. He has good lateral motion of the new joint, and flexion and extension to a limited extent. He is able to walk comfortably with the assistance of a common walking-cane, and a shoe with the heel about half an inch higher than the other."

ART. 126.—*On dislocation of the Metatarsal Bones downwards and backwards.* By Mr. SMYLY, Surgeon to the Meath Hospital and County Dublin Infirmary.

(*Dublin Quarterly Journal of Medicine, May, 1854.*)

This case is the counterpart of that by Mr. Tufnell, related in our last volume (p. 155), as the first of the kind on record.

"CASE.—William P., a young man, was admitted into the Meath hospital on the 23rd of March, 1843, for an injury of the foot, which he sustained the day before. He was driving a cart, sitting in front, when, in making way for another vehicle to pass, the wheel got into the gripe of the ditch at the roadside, and the cart on which he sat was upset. He fell so that his right foot got between the shaft and the bank of the ditch. The shaft crushed the heel against the toes, which were fixed by the bank. The patient suffered severely at the time, and was quite disabled. His foot was pulled immediately after the accident, but, getting no relief, he was sent to the hospital. On admission, the foot was so swollen that the nature of the accident could not be ascertained; when, by leeching and appropriate means, the ecchymosis was dispersed, the form of the injury became manifest from the projection of the tarsus, the hollow immediately in front of it, with the corresponding projection in the sole, and the shortening of the foot. On the sixth day after the accident, efforts were made, by means of pulleys, to reduce the dislocation, which, with perseverance, proved perfectly successful. A piece of wood, in the form of a sandal, made to fit the sole of the foot, having a heel-piece of leather with a strap to cross the instep, retained the bones in their places. On the 16th of April this man was dismissed, being sufficiently recovered to use the foot.

"In this, as in Mr. Tufnell's case, the luxation was caused by a force acting between the heel and the toes, pressing the parts together. This case shows that there is no physical barrier to reduction in such dislocations, and that an attempt ought to be made before condemning such lesions as irremediable, and abandoning them to nature.

"The most important difference between Mr. Tufnell's and my case is, that reduction was accomplished in the latter; this I attribute to the circumstance that in mine the whole range of metatarsal bones was dislocated, and thus there was a more extensive laceration of the ligaments; and, secondly, the extending power could be more efficiently applied than where only three bones were displaced—the two which remained *in situ* impeding and resisting extension."

## PART III.

### MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

ART. 127.—*Cases of Prolapsus Uteri during pregnancy.* By (1) Dr. CHAPMAN, of Brooklyn; and (2) Dr. BONE, Assistant Surgeon to the 97th Regiment.

1. (*New York Journal of Medicine*, May, 1854.)
2. (*Edin. Monthly Journal*, Sept., 1854.)

These cases are remarkable from the fact that the process of gestation was not seriously disturbed by the accident, and by the rough measures which were necessary to remedy it. The first case is especially remarkable, for here a delicate woman, five months advanced in pregnancy, carried her child for three weeks external to her body, performed all her house-work for the time, and suffered no inconvenience except some soreness arising from the uterus being chafed. The second case occurred at ~~Halifax~~, in Nova Scotia, and was communicated to the Edinburgh Obstetrical Society by Dr. Graham Weir.

1. *Dr. Chapman's case.*—Mrs. W., healthy, spare habit, and mother of three children, came under my observation during her second confinement. My attention had been called to nothing unusual in her case. I saw Mrs. W. on the 19th November, 1849; she remarked that her womb had been down for three weeks, with a constant bloody discharge, rather freer than the menses, but natural in appearance. For three weeks, she had been constantly on her feet attending to her household affairs. During the three weeks she had made many efforts to reduce the womb, which from its size and tenderness were ineffectual. I directed her to keep her bed till the next morning, and in the meantime foment the womb constantly, when I would call again and reduce it.

Nov. 20th.—On examination, I found the womb of the size of the two closed fists, completely external to the body. My thumb and fingers could meet above its fundus, external to the vulva, having only the inverted vaginal walls and ligaments of the womb between them. When she was erect the womb must have extended nearly to her knees. At the time, I supposed the enlargement of the womb arose from its strangulation and congestion. It is proper to remark, that Mrs. W. said she had been subject since her first child was born to an almost constant prolapsus when she was on her feet, which she never before had found trouble in reducing. I effected the reduction without much difficulty; applied a compress over the vulva, with a T bandage, and directed her to get up after two or three hours.

Nov. 21st.—Immediately on getting out of bed, the prolapsus occurred again. I directed her to lie down, and then found the womb more irritable and larger than before. I reduced it immediately, but with considerable

difficulty and the exertion of some force. She was directed to keep the recumbent posture and use astringent injections; a putrid discharge followed and continued five days. On the 4th of December she felt life, fifteen days from the first reduction. After this time she was allowed to get up, and I discontinued my visits after the 8th.

On the 15th of March, I was called to Mrs. W. again. She said that she had continued feeling life stronger and stronger every day since I had last seen her; that the womb had been down many times since my last visit, but that she had been able to put it back; that now it was down worse, and of greater size than ever before, and that she could not reduce it. Besides, she had labour-pains that recurred every ten minutes. I found the fundus uteri as high as the umbilicus; the neck of the womb, external to the genital fissure, something larger than the two closed fists. Through the os uteri, I could feel the child's head resting on the rami of the ischium and pubis. As I failed to reduce the uterus while she lay in bed, I directed her to turn on her face, resting on her knees and shoulders, in which position I easily succeeded. On examination, I felt the os uteri dilated to the extent of a circle two inches in diameter. The pains gradually subsided, and in two hours' time, the os uteri had contracted to the size of half a dollar.

On the 29th of March, she was taken in labour and delivered of a strong, vigorous female child, weighing six pounds. She must have been at her full term from the development of the child's head; the posterior fontanel was closed, and the anterior was no more open than usual. No prolapsus occurred during the labour, but the womb rested low in the pelvis. Mrs. W. said that the womb had come down every two or three days since the reduction in November, and also in March, but that by lying down she could reduce it. Probably after the reduction in November the prolapsus was only partial. During her whole gestation, the child's head undoubtedly rested on the perinæum, as she remarked that it always seemed to her that she sat on the child when no prolapsus existed.

She was delivered 130 days after the reduction in November, consequently (allowing 280 days for the term of gestation,) she was at that time advanced 150 days, or 21 weeks and three days, or about five months. At this time, it is to be recollected, when she was five months advanced in pregnancy, the womb had been completely external to her body, hanging nearly to her knees for the space of three weeks; and during this time she continued about her house every day, suffering nothing more than the inconveniences of dragging pains, the discharge, and the obstruction to walking, from the bulk of the womb and its tenderness.

2. *Dr. Bone's case.*—I was called, on Friday evening, 16th July, 1852, to see Mrs. Mulrain, aged 25, wife of a soldier, 97th Regiment, whom her husband reported to have met with an accident, and to be very ill. On my arrival at her lodgings I found her in bed, her countenance contracted, face pale, extremities cold, feet drawn upwards, pulse quick. She informed me that when lifting a tub of water she felt a sudden pain in her back and side, and that something had given way within her, and that she was five months pregnant. On turning down the bed-clothes a *tumour* was felt lying towards the right side and across the abdomen; on examination it was found to be projecting from the vagina, about the size of an infant's head, and covered with a mucous secretion, but not very painful on being touched.

Having passed my finger along the *tumour*, I found the vagina filled up and distended by the mass; the os uteri could not be detected, the foetus was without motion. There was no hemorrhage. Suspecting that the *tumour* was the uterus that had fallen down and was protruding, I asked if the same

accident had happened to her before ; she replied that after the birth of her first child the uterus had " come out," but not so much as at present.

Before my arrival the women in the room had put a bandage between her thighs, and tied it round her neck to support the tumour. Having lowered her head, and raised her hips with a pillow, I determined to try to reduce the mass by taxis. The left hand being oiled, I seized the neck of the tumour and gently compressed it, and, by pressure directed upwards, endeavoured to replace the tumour. After a little resistance the protruded mass yielded, and returned inwards till it reached the promontory of the sacrum, and resisted all further efforts at reduction, the patient meantime moaning and complaining of great pain. I then discontinued the pressure, and applied cold cloths to the vagina and lower parts of the abdomen, and also dipped my hand in water, and rapidly applied it to the uterus within the vagina. The attendance of Mr. Cay, the senior assistant-surgeon of the regiment, was requested, and his permission asked to use chloroform. He was unwilling to sanction the use of it. After waiting some time, I renewed the pressure, and the uterus returned slowly to its place, when the finger came in contact with the os uteri. I afterwards examined the uterus through the parietes of the abdomen and found it upright. The woman was then turned on her back with the pillow still under her, and a bandage was applied above her hips and thighs, and as the vagina was relaxed I directed that some ice should be placed in it. I then gave her twenty drops of tincture of opium, and directed her husband to keep her for some time in the position in which she was then placed.

17th July.—She passed a quiet night—slept some time ; but had vomited after I left her on the previous evening ; no pain of the abdomen ; the uterus in its place ; *no movement of the child felt* ; vagina nearly of its natural size.

Rx Olei. Ricini, 3ss.

Aqua Cinnamomi, 3j.

Fiat haustus statim sumendus. To take rice and milk.

In the evening the bowels freely moved by the oil used, and soon after, the foetus was felt freely moving.

18th July.—The child moves freely and vigorously. The patient feels quite strong, and was allowed to rise out of bed next day. Since then I have frequently seen her, and she continues till this date, 14th October, progressing favorably with her gestation.

#### ART. 128.—*A case of Paralysis occurring during Childbed.*

By Dr. FLEETWOOD CHURCHILL.

(*Dublin Quarterly Jour. of Medicine*, May, 1853 )

This case occurs in a memoir on 'Paralysis occurring during Gestation and Childbed,' in which are collected together upwards of 30 analogous cases, from the writings of various authors, and from other sources. Dr. Churchill is wishful to detect some peculiarity in the paralysis occurring under these circumstances, but we do not see that he succeeds in doing so. He thinks that albuminuria, or the condition of blood leading to albuminuria, has played an important part in bringing about the paralysis in many of the instances, and that the treatment ought to have an especial reference to the condition of the kidney.

Dr. Churchill's case is of very considerable interest. It is of inte-

rest, as showing the condition of the urine and kidney, and also from the fact, that air was present in the vessels, and apparently the immediate cause of death. It appears, indeed, to be very similar to one of the cases of "pneumathæmia," described by Dr. Cless on a former page. In this volume Dr. Churchill writes:

CASE.—Mrs. A—, æt. 26, was confined for the fourth time, on Saturday, November 12, 1853, after a labour of two or three hours, the second stage being under one hour. She had enjoyed excellent health during pregnancy; had no headache or derangement of the stomach or bowels, no œdema; nor was she subject to nervous or hysterical attacks. She was neither plethoric nor anemic. After her confinement she recovered, without a single drawback up to the seventh day, November 18th, on which day, at 9 a.m., after speaking to the nurse quite composedly, but without making any complaint, she became insensible, with some twitchings of the face, but without any other convulsive movements. The insensibility lasted but a few minutes, but when she recovered she was found hemiplegic on the right side, with some difficulty of speaking. These symptoms gradually diminished, however, and at 3 p.m., when Dr. Duke requested me to see her, she could move both leg and arm, and grasp my hand firmly, and speak quite intelligibly. She was quite intelligent, but there were some words which she either could not pronounce or could not remember, although she recognised them when mentioned, and assented, nor could she put our her tongue freely. She said that she had no pain in the head, or anywhere else, the eyes were clear and bright, the pupils well dilated, and amenable to light, which, however, caused her no annoyance. The pulse was 140, small, thready, and fluttering. There was a slight degree of tenderness in the right iliac region, which disappeared soon after; the lochia were abundant, natural in appearance, and free from unusual odour; and she had plenty of milk. After very minute inquiry, neither Dr. Duke nor I could detect any cause for the attack. Dr Duke had applied six leeches to the forehead; had given moderate doses of blue pill and opium, which were continued; and had applied sinapisms to the legs, and a blister to the nape of the neck. She continued pretty much in the same state during the day, but in the evening she had another attack of paralysis, accompanied by very slight twitchings of the arm, after which the loss of power was much more complete, although she retained perfect sensibility throughout.

November 19th, 10 a.m.—She slept at intervals during the night, pulse 140; small and weak. She can still move the leg a little, but the arm scarcely at all; her speech is thicker, and the difficulty of getting out certain words increased; but she shows that she understands everything that is said. The bowels have been moved, and the bladder emptied; but, from the difficulty of moving, she passes all under her, though not unconsciously. The same remedies were continued, the head shaved and blistered, and chicken broth allowed.

20th, 10 a.m.—In much the same state as yesterday, except that her pulse has improved in strength and volume, and is only 120. She has no pain at all, is quite intelligent; the expression of her face calm and easy; she cannot move the arm, but it is quite sensitive; the leg she moves a little. The bowels were moved, and the urine passed. We had this day the advantage of Dr. Stokes' assistance, and as he concurred in our plan of treatment, the pills of mercury and opium were continued, another blister applied, and a mixture of ammonia, infusion of orange peel, ordered.

21st, 10 a.m.—Dr. Montgomery visited her with us this day; we found the paralytic affection in the same state as yesterday, but she seemed not

quite so well, in consequence of having passed a sleepless night, and from the bowels having been acted on too freely by the mercury. Pulse 120, weak, but fuller and more steady than they were two days ago. Neither Dr. Stokes nor Dr. Montgomery was more successful than we had been in detecting the exciting or the pathological cause of the attack. The pills were ordered to be omitted, and a chalk mixture, with a few drops of laudanum, substituted. Another blister was applied to the head.

22d, 10 a.m.—Our patient seemed better this morning, more lively and intelligent; she can move the leg more, but the arm and hand are quite powerless; the bowels are more quiet, and she takes a little food well. Partly from her inability to use the bed-pan, and partly from her passing both urine and faeces together when she did use it, we had no opportunity of examining the former until to-day. The nurse had always told us that it appeared natural, but this day we procured a quantity, which I brought away for analysis. Unfortunately, the cork came out of the bottle, and all was spilled except about half an ounce. This, though insufficient for an accurate quantitative analysis, was enough to show the presence of a large proportion of albumen, with epithelial scales, pus corpuscles, and the urates of ammonia and soda.

Further visits on my part were unnecessary, but Dr. Duke was kind enough to furnish me with specimens of the urine passed in the nights of Nov. 22d, 25th, 26th; and my intelligent young friend, Mr. Charles Leet, has given me the following careful analysis of each.

No. 1. Nov. 23d.—Urine, pale-yellow in colour, faint, peculiar odour, feebly acid reaction. Specific gravity, 1028.500.

Water . . . . .	934.850
Solid constituents . . . . .	65.150
Urea . . . . .	14.591
Uric acid . . . . .	1.250
Fixed salts . . . . .	11.166
Albumen . . . . .	19.225
Ammonia, salts, and extractive matter . . . . .	18.918
Amount in 1000 parts of urine . . . . .	65.150

No. 2. Nov. 24th.—Physical characters the same as the last, but with a much smaller sediment. Specific gravity, 1024.250.

Water . . . . .	943.087
Solid constituents . . . . .	56.913
Urea . . . . .	18.340
Uric acid . . . . .	1.200
Fixed salts . . . . .	9.245
Albumen . . . . .	10.928
Ammonia, salts, and extractive matter . . . . .	17.200
Amount in 1000 parts of urine . . . . .	56.913

No. 3. Nov. 26th.—This specimen was of a deeper yellow colour, and had a stronger reaction. Specific gravity, 1014.500.

Water . . . . .	969.658
Solid constituents . . . . .	30.342
Urea . . . . .	9.250
Uric acid . . . . .	1.909
Fixed salts . . . . .	6.100
Albumen . . . . .	3.833
Ammonia, salts, and extractive matter . . . . .	9.250
Amount in 1000 parts of urine . . . . .	30.342

The following table will afford a comparative view of each specimen with the others and with the average standard in health. As the quantity passed in twenty-four hours could not be ascertained, the normal quantity, 30 oz., has been assumed :

	Normal Average.	Specimen No. 1.	Specimen No. 2.	Specimen No. 3.
Amount of urine in 24 hours	30 oz.	30 oz.	30 oz.	30 oz.
Specific gravity	1019	1028	1024	1014
Solids	570	840	720	420
Urea	218	188	228	121
Albumen	—	155	134	39

Thus we see that the solid matter in No. 1 and No. 2 is far above the average of health : that the quantity of urea is nearly as much below it, except in No. 2, where it is in excess ; and that there is a large proportion of albumen, although diminishing with each specimen. It may fairly be presumed, I think, that the disproportion of these constituents was even more remarkable at an earlier period of the disease, and for this reason I cannot avoid expressing my regret that I did not bestow more care upon it.

I have said that I did not see the patient after November 22d, but Dr. Duke informs me that she continued to improve slowly up to November 25th, after which, for a few days, she seemed not so well ; her intelligence was less, and she seldom spoke, but answered by a nod or a shake of the head ; she retained the power of moving the leg, but not the arm.

Nov. 26th.—There was barely a trace of albumen in the urine.

Nov. 30th.—Dr. Duke informed that our patient is again improving slowly.

Dec. 12th.—Up to this day the improvement had continued, slowly indeed, but quite marked. Her intelligence was restored, her bodily strength increased, her appetite better ; in everything, save the impotence of the arm and leg, she was going on most favorably. During the morning she seemed very comfortable, and was talking cheerfully with her sister. At one o'clock she raised herself to a sitting posture in bed, and took some gruel, feeding herself with her left hand. As she finished, some remark of her sister's excited a fit of hearty laughter, after which she suddenly exclaimed, "Oh dear ! Oh dear !" fell back insensible, and expired almost immediately.

*Post-mortem Examination*, Dec. 14th, 2 p.m., forty-eight hours after death, by Dr. Duke and myself.—There were the usual marks of the gravitation of the blood, but no signs whatever of any putrefactive change ; the body was in good condition, and a layer of fat, an inch thick, was found on cutting through the abdominal integuments. The head was first examined : there was no turgescence of the scalp, nor, when the skull was removed, was there anything abnormal detected about the dura mater. On removing this covering we found the superficial vessels moderately congested, except at one part of the anterior lobe of the right hemisphere, which was quite pale and bloodless, with a slight effusion of serum beneath the arachnoid. But the most memorable fact noticed at this stage of our examination was, that every blood-vessel contained bubbles of air, alternating with globules of blood, giving to each vessel a beaded appearance, and this extended to very minute vessels, and to those in the division between the hemispheres. We traced the blood-vessels as minutely as we could with the naked eye, but could discover neither obstruction nor obliteration. The brain was then carefully removed ; the

upper portion of the spinal marrow and the nerves appeared quite healthy; there was no morbid appearance about the base of the brain; the pons varolii and the parts adjacent exhibited neither congestion externally, nor bloody points when cut into, nor any change in the firmness or appearance of their structure; the right hemisphere was healthy throughout, of its usual firmness and appearance, and, when divided, free from vascular points. In the anterior lobe of the left hemisphere, just about the anterior termination of the ventricle, we found the white cerebral substance, and, to a limited extent, the grey matter in the neighbourhood, reduced to a pulpy condition, about the density of gruel; the texture was completely destroyed for about an inch and a half in length by half an inch in breadth; the colour was very little changed, was certainly not redder than usual; posterior to the diseased part the tissue seemed quite natural; there was no hardness nor vascularity,—nothing, in short, to mark the transition from diseased to healthy structure. Again, in the posterior lobe, there was a similar, but smaller, spot of softening, without surrounding vascularity or hardness. We remarked, indeed, that the bloody points generally seen upon cutting through the substance of the brain were less numerous than usual. Dr. Lyons examined a portion of the softened part, and he found nothing but exudation corpuscles, with the debris of cerebral fibres; neither purulent nor serous infiltration; no other morbid appearance was discovered in the brain or cerebellum, and there was not above an ounce of serum escaped.

The lungs were free from adhesions, and perfectly healthy.

The heart was of the usual size, its walls of the ordinary thickness, and its cavities normal and empty; the auriculo-ventricular and aortic valves were complete, perfect, free from vegetations, and of the usual thinness.

On opening the abdomen we found no trace of peritonitis; the stomach, the greater portion of the small, and all the large, intestines, were perfectly healthy; in one part of the small intestines we found the coats stained of a reddish-brown colour, and the mucous membrane softened and pulpy.

The same reddish-brown colour extended to the contents of the pelvis; we found the uterus nearly reduced to its natural size (five weeks after delivery); its walls were of their natural thickness, and apparently healthy; the cervix was dark-coloured, and had still a bruised appearance; the cavity contained a thick, gelatinous, reddish-brown fluid, of which some had escaped through the vagina on to the bed; it had no putrid odour, but resembled not quite healthy menstrual fluid; the ovaries were small and healthy, but the broad ligaments and Fallopian tubes retained an unusually vascular appearance, and in the folds of the ligament was a cyst as large as a grape.

The kidneys were dense, and one much larger than the other; when cut into they exhibited great congestion, and from the divided tubes purulent matter escaped.

The other viscera were perfectly healthy.

**ART. 129.—*Case of Double Uterus, with Twins and placenta prævia.***  
By Professor HOHL.

(*Prager Vierteljahrsh.*, Bd. 4, 1853; *Gaz. Hebdom.*, Mai 17, 1854.)

Cases of double uterus are not uncommon, but the following case is distinguished from all others by most remarkable peculiarities.

**CASE.**—A delicate woman, æt. 30, was subject, during the first three months of her second pregnancy, to periodically recurring attacks of uterine

hemorrhage, which, although easily checked for the time, returned more violently in the seventh month. At this period her abdomen was found very much distended at both sides, but level in the central region from the umbilicus to the symphysis pubis. Percussion yielded a tympanitic sound in this hollow, and a dull sound on either side. An inch and a half above the pubis the uterus could be felt distinctly, through the parietes, dividing into two parts, of which the one on the right side was largest. Both were convex on their internal, and somewhat concave on their external surfaces; and each resembled in appearance the normal gravid uterus at the full time. In each, the foetal heart could be distinctly heard on auscultation, and the form of a child easily felt by external tactile examination. On internal exploration, the vagina was found quite normal; and at its roof the cervix was felt, short and broad, and having two ora uteri, through both of which the presenting parts of the children could be distinguished. Over the right os uteri was situated one of the placentæ, and a portion of the other projected from the left os. On account of the violent uterine hemorrhage, Hohl induced premature labour, and delivered the children by turning. The right placenta was spontaneously detached, but that on the left side adhered so firmly, that it had to be artificially separated. The twins, which weighed three pounds, died almost immediately after their birth. Subsequent examinations of the uterus, with the sound and the finger, confirmed the correctness of the original diagnosis.

**ART. 130.—*A case of Superfætation.* By M. THIELMANN.**

(*Med. Zeitung, Russl. I, 1854; and Medico-Chir. Rev., Oct., 1854.*)

This case is thus reported by Dr. Barnes :

A peasant girl, æt. 25, had borne, at 20 and 23, girls. In July, 1852, she became pregnant a third time; menstruation appeared twice after conception. On the 26th of March, 1853, the first pains appeared, and next morning she was delivered of a girl, small but living; the afterbirth came away normally. The lochia ceased in a few hours. The secretion of milk was so scanty, that the child could not be supported by it. Eight days after delivery, the woman returned to her household duties; but she felt in her left side the movements of a second child. On the 18th of May—that is, fifty-two days after the birth of the first child—pains came on, and the birth of a second living girl, followed. From this time the secretion of milk went on so freely, that both children derived sufficient nourishment. M. Thielmann says this case was officially certified.

**ART. 131.—*Twins of different colour.* By Dr. A. F. ATTAWAY.**

(*American Quarterly Journal of Medical Sciences, July, 1854.*)

This case is originally related in the 'Southern Medical and Surgical Journal' for June, 1854. Dr. Attaway writes :

**CASE.—**Mrs. C—, a white woman, the mother of three children, gave birth to twins on the 16th of January, an interval of an hour intervening between the births.

The first born was very dark, and had every appearance of being of African paternity. Not being willing to suggest such a thing, I tried to explain the

matter, by attributing the colour to cyanosis. At the expiration of one hour, the second child was born, and had very light-coloured hair, fair skin, and blue eyes, which made the contrast very striking.

The condition of the mother and children was such, that they required medical treatment for several weeks, during which time I marked the great difference between the children with peculiar interest.

After the recovery of the woman and her children, seeing the African characteristics more and more developed, I asked the mother to give me a correct relation of the circumstances connected with her conception, &c.

After some hesitation, she gave me the following history of her case: She said that five days after the cessation of her last menstruation, she had sexual intercourse with the white man, whom she considered the father of the white child. Three days thereafter, making eight days after menstruation, she cohabited with a negro man, who she said was the father of her other child. She assured me that this was the only coitus she had with the negro man for more than one month after she menstruated. If this be true, she conceived at that time.

The precise period of her other conception is less definite, in consequence of the fact that she had connection with the father of her white child, at different times, during the month following her last menstruation.

#### ART. 132.—*An instance of a Fœtus in Fœtu.* By Dr. C. O. WEBER.

(*Archiv für Path. Anat. u. Phys.*, Bd. vi; and *Medico-Chir. Rev.*, Oct., 1854.)

This case is very curious.

Matthias Stamrätz was born on the 1st Oct., presenting a tumour the size of a child's head attached to the sacrum. The tumour grew perceptibly, stretching the skin, and it seemed certain that the child would gradually sink. It was brought to the surgical Clinique at Bonn on the 30th Nov., 1853. The tumour was immovably adherent, very soft, and seemingly for the most part consisting of fat; but two fingers were plainly felt united to the sacrum by a broad, thick joint. The tumour was removed; suppuration followed in the wound, but the child eventually recovered, and was sent home at the beginning of 1854. The examination of the tumour showed that the two fingers, which consisted of three complete phalanges, and bore nails, were, by the apparent union of the metacarpal joints and some rudimentary wrist-joints, connected with the sacrum. This formed the basis of the tumour. A very soft, fatty tissue constituted the greater portion. Near the surface was found a cyst the size of a goose's egg, containing about two ounces of fluid, yellowish-green, clear matter. The microscopic examination of this fluid showed blood-globules, epithelial-rudiments, and some fat-granules. The chemical examination made by Dr. Boedeker exhibited no pyin, fibrin, or albumen. It was identified with what Scherer has described under the name of paralbumin.

ART. 133.—*The determining cause of Parturition.*  
By Professor SIMPSON.

(*Edinburgh Monthly Journal*, Sept., 1854.)

After stating and refuting the various theories which have been suggested on this point, such as the supposed origin of the act of labour in certain states of vital development or physical expansion of the fundus, body, or cervix uteri, in some supposed conditions of the foetus, liquor amnii, or placenta, Dr. Simpson suggests that the loosening or decadence of the membranes, or membranes and placenta, from the interior of the uterus, may constitute the determining cause of parturition; and that this loosening or decadence is itself the result of the effete degeneration of the structure of the decidua towards the full term of pregnancy. Various circumstances in obstetric physiology and pathology are stated in evidence of this view. It is also so far proved, experimentally, for we bring on labour artificially by imitating this process when we separate the membranes with the fingers or catheter; or when we inject tepid water into the cavity of the uterus, or, in other words, between the membranes and interior of the uterus—the latter a plan which Dr. Simpson has followed in 20 or 30 cases.

ART. 134.—*Statistics of those cases in which Chloroform has been administered in the Rotunda Hospital, since October, 1851.* By Dr. ATTILL.

(*Dublin Quarterly Journal of Medicine*, May, 1853.)

In this hospital it is not considered necessary or expedient to give chloroform in the ordinary run of natural labours. On the contrary, chloroform was only given—1st. To all cases in which it became necessary to use instruments. 2d. To all cases where version was contemplated. 3d. To a few cases of preternatural presentations of the breech or foot. 4th. In a few instances of protracted labour, where the patient was exhausted from long-continued suffering. 5th. In some cases where the woman seemed to suffer more than ordinary, and was nervous, irritable, or noisy. And 6th. In a few cases of convulsions.

In the first or instrumental group, the value of chloroform can be scarcely overrated: the patient exhausted, perhaps, by a tedious labour, is restless and impatient, and the idea of an instrumental delivery may have added terror to her already unhappy condition; the forceps, consequent on the above state of necessity, or because of restlessness, may not be applied with facility. Now the anaesthetic influence of chloroform obviates all this. The patient can be easily placed in any convenient position, and the comfort experienced by the operator is only equalled by the fact of the patient's own freedom from pain, and the consolation, on her recovery from the effects of the drug, at finding all cause of anxiety and distress at an end. Chloroform is never omitted in these cases.

In the next class of cases, the beneficial effects of the anæsthetic is equally great; the patient is rendered passive, and version is more easily accomplished from the uterine action being suspended (which is the case as a general rule) for the first few minutes after the full effect of chloroform has become apparent.

In the third set, *viz.*, those instances of breech or footling presentations, in which difficulty may be expected in the extraction of the head, from the impossibility of keeping the patient quiet; especially when such presentations occur in primipara, it has been found useful to administer chloroform when the breech begins to distend the perinæum; this practice has been attended with the happiest results.

With regard to the fourth class, it has been found, on several occasions, that when the patient was getting worn out from continued suffering in a labour rather tedious, the most marked benefit followed the exhibition of chloroform; for after having been kept under its influence for a time, perhaps for an hour or two, the woman has awakened much refreshed, uterine action has set in with vigour, and the case has soon terminated happily and naturally.

An example illustrating this remark occurred but a few days since in a primipara, in whose case the membranes having ruptured at the very onset of the first stage, tediousness was the result, and when the os was fully dilated, the pains, though incessant and harassing, were so inefficient that they had not power enough to force the head into the brim; the woman, who had, up to this time, been 26 hours in labour, and was much exhausted, was now placed under the influence of chloroform, and its effects kept up for an hour at least. After having slept some time, she awoke refreshed; the pains set in powerfully, the head soon rested on the perinæum, and the labour was then cut short by the forceps. Dr. Atthill does not think that the head, in this instance, would have entered the pelvis at all, had not the woman been refreshed by the interval of ease which she enjoyed while in a state of anæsthesia.

With respect to the peculiar effects produced by chloroform, when used to complete anæsthesia, the experience of the hospital confirms the observations made by Dr. Denham in his paper on this subject, *viz.*, "that uterine action is at first suspended, but that it usually sets in again after an interval of about a quarter of an hour; that the pains return regularly and forcibly, and that the actual expelling power of the uterus is not much, if at all, diminished." Dr. Atthill considers, however, that there is, without doubt, a greater tendency to postpartum hemorrhage in such cases than in those where chloroform has not been inhaled; also, that the uterus does not contract so rapidly or so firmly as usual; and that there is a decided tendency to relaxation in the organ. This, he thinks, admits of an easy explanation, from the fact that, although the "active contractions" of the uterus are not interfered with, the "tonic action" is more or less destroyed, and hence the tendency to flooding; but this tendency has never resulted in anything serious in the hospital practice, due precautions being always taken. Pressure has constantly to be kept up for a considerable time; sometimes it has been necessary to apply cold perseveringly, and as a general rule the binder is

not applied till the woman has completely recovered from the effects of the drug.

None of those unpleasant symptoms, which have been ascribed to the use of chloroform, have come under the notice of those connected with this Hospital. The pulse has never once faltered in any of these cases. In one solitary instance the patient showed symptoms of hysterics after having inhaled a little, and the inhalation was at once discontinued. And, in another case, when just recovering from its influence, the woman had two hysterical fits, but so short and trivial as to be hardly deserving of notice; with, then, these two exceptions (if they can be called exceptions), all these cases, in which chloroform was administered, were without any drawback, so far as the chloroform itself was concerned."

Cases in which chloroform has been administered in the Rotunda Hospital from October, 1851, up to the present date.

No. 1.—FORCEPS CASES.

Total	Children.			Mothers.			Causes of Death to Mothers.			Rate of Mortality.
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Maniacal.	Peritonitis.	Rupture of Uterus.	Convulsions.	
82	69	15	2	78	4	1*	1	1	1	1 in 20½

No. 2.—CROCHET CASES

Total, including one Evisceration.	Mothers.			Causes of Death.			Rate of Mortality.	
	Recovered.	Died.	Maniacal.	Peritonitis.	Convulsions.	Rupture of Uterus.		
38	30	8	1†	2	1	3	2‡	1 in 4½

No. 3.—VERSION CASES.

Total.	Children.			Mothers.		Causes of Death.		
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Peritonitis.	Rupture of Uterus.	Convulsions.
13	9	4	0	12	1	0	1	0

No. 4.—FOOTLING AND BREECH CASES.

Total.	Children.		Mothers.	
	Alive.	Dead.	Recovered.	Died.
3	3	0	3	0

\* Subsequently recovered.

† Ibid.

‡ One an old vesico-vaginal fistula.

## No. 5.—NATURAL CASES.

## No. 6.—CONVULSION CASES DELIVERED NATURALLY.

Total.	Mothers.		Children.	
	Recovered.	Died of Peritonitis.	Alive.	Dead.
4	3	1*	3	1

Total.	Children.			Mothers.	Causes of Death.
	Alive.	Dead.	Dead and Putrid.		
2	1	0	1	0	2

No. 7.—PROLAPSE OF FUNIS  
DELIVERED NATURALLY.No. 8.—ALL CASES IN WHICH CHLOROFORM  
WAS GIVEN.

Total.	Mothers.		Children.	
	Recovered.	Died.	Alive.	Dead.
1	1	0	0	1

Total.	Mothers.			Children.		
	Recovered.	Died.	Total de-ducting Perforation Cases.	Alive.	Dead.	Dead and Putrid.
143	127†	16	110	85	21	3

“Out of this list of 143 cases in which chloroform was administered, there were but 16 deaths; a small proportion, when it is remembered that, with the exception of 7, all were cases of either difficult or complex labour; deducting these from the 16 fatal cases here recorded, 4 of convulsions, in which chloroform was given as a last resource, and which would have undoubtedly died under any circumstances, we have 12 to dispose of; 4 of these died of peritonitis, of which four, 2 were so deformed as to have given extreme difficulty to delivery; 5 were cases of ruptured uterus; 2 were destroyed by sloughing of the soft parts, and one of these was the subject of an old vesico-vaginal fistula, in whom the constant dribbling of the urine after delivery excited inflammation, which, taking on an erysipeloid form, terminated in the destruction of all the soft parts in the neighbourhood of the outlet as well as those of the passages; lastly, in 1, life was terminated by phlebitis.

“I therefore conclude that, on reviewing the causes of death in such of these anæsthetic cases as terminated fatally, no blame whatsoever can be attached to the chloroform. In the paper by Dr. Denham, before alluded to, he gives two instances where anæsthesia could not be induced; with us chloroform never failed to induce this state, save in the one instance, when its use was discontinued; but all the conclusions to which he has there arrived have been fully borne out by this additional experience; in one point only do I differ from him,

\* Very protracted in first stage, and slow in second. Child dead-born.

† Including the two maniacal cases, which subsequently recovered.

and that I have already mentioned, viz., I feel forced to consider that in labour cases, when chloroform is used, there is always a great tendency to post-partum hemorrhage."

**ART. 135.—*Belladonna as an ecbolic.* By Dr. SOMA.**

(*Bull. Gén. de Ther.*, 1854; and *Medico-Chir. Review*, Oct., 1854.)

"Dr. Soma relates three cases in which he gave the extract of belladonna during labour. He attributes to this remedy more energy and quickness of action than the ergot possesses. He observes that a dose unusually large was tolerated with advantage. He gave two or three table-spoonfuls of a mixture consisting of five ounces of the vehicle, and eight grains of the extract, every ten minutes. The cases related do not appear to be sufficiently numerous or precise to be conclusive as to the power of belladonna in exciting uterine contraction."

**ART. 136.—*On Symphyseotomy.* By Dr. J. MATTHEWS DUNCAN.**

(*Dublin Quarterly Journal of Medicine*, August, 1854.)

The earlier part of this paper is occupied by considerations which tend to show the separation of the pelvic bones during parturition. The soft tissues contributing to form the pelvic joints, soften and increase in thickness in the latter part of pregnancy, and this thickening separates the bones and enlarges the pelvic circle. This softening and thickening, moreover, allows the pelvic bones to move on each other, so that the brim yields as the head passes into it, and the outlet as the head passes out of it. These movements are partly caused, and partly favoured by the position into which the woman instinctively falls at the different stages of labour. The results of symphyseotomy, moreover, furnish proof that the pubic bones may be separated to the extent of one or two inches without injury. Reflecting upon these facts, the operation of symphyseotomy appears to Dr. Duncan to be a more *natural* means of proceeding in cases where birth is prevented by pelvic contraction than Cæsarean section or craniotomy. Dr. Duncan writes :

"The operation of symphyseotomy, as reintroduced to the profession in 1768 by MM. Sigault and Le Roy, is one which has, with justice, been condemned. But the jealousy of the Academy of Surgery, which discountenanced M. Sigault's operation at the first, led the members, after the subsidence of the excitement produced by its first and only occasional successes, to repeat their condemnations of it, and prevented its obtaining a fair consideration. It yet remains to be seen whether the operation, as more broadly proposed, long before Sigault, by Severin Pineau, may not be one which is destined to have a small place among the operations of practical midwifery, devoted to saving the life of the unborn child. In this country the operation received, after its proposal by Sigault and Le Roy, the high sanction of W. Hunter and Denman, so far as its own peculiarities were concerned. But they, at the same time, showed that it could be of very little, if any, service, in

the cases for which it was proposed, namely, those of extreme pelvic distortion where Cæsarean section would otherwise be required. In this condition matters have been allowed to rest. British obstetric authors have loaded the operation itself with calumnies which are quite unfounded, and raised difficulties about it which are sufficient to deter a superficial inquirer from its consideration.

“ There is every reason to believe that the operation, in itself, is one of slight danger at the time, or even ulteriorly, if compared with the dreadful results of craniotomy and Cæsarean section. For the latter operation it can very seldom be a substitute. But it remains to be seen whether the former, namely, craniotomy, may not in some cases be superseded by it. There is every reason to think that the operation would be much less dangerous to the mother than craniotomy, even with the allowance of great freedom in the selection of cases; and it would give a chance of saving the child, whose life is necessarily compromised by that proceeding. Moreover, the operation might probably be simplified by adapting to it the subcutaneous method.

“ I conclude these remarks with the following quotation from the most esteemed author in British obstetrics, whose name and influence have contributed greatly to the neglect into which the operation has fallen:

“ ‘ It is proved,’ he says, ‘ in the first place, that some enlargement in the capacity of the pelvis is actually obtained by dividing the symphysis of the ossa pubis.

“ ‘ Secondly, that the evils which have followed this operation have been very much occasioned by its being performed unskilfully, or by injudicious endeavours to increase that enlargement of the capacity of the pelvis beyond the degree which naturally follows the division of the symphysis.

“ ‘ Thirdly, that many women who have undergone this operation have recovered; though of those who recovered, many suffered very serious complaints for a long time, or for the remainder of their lives.

“ ‘ Fourthly, that some children were born living when this operation was performed.

“ ‘ We may, therefore, presume to say that if a case could be so precisely marked that there should only be a deficiency of just as much space as would be supplied by the simple division of the symphysis, the operation might in that particular case be considered.

“ ‘ We may also say, that this operation is not so certainly fatal to those women on whom it may be performed as the Cæsarean operation; nor so certainly destructive of children as that of lessening the head.

“ ‘ We may, then, be allowed to suppose a case, and such a one is more than possible, in which a person of very high rank, the life of whose child might be of the greatest public importance, could not be delivered without the destruction of the child, or her child be preserved but by the Cæsarean operation at the expense or great hazard of her life; and that she, through human frailty, might refuse to submit to the Cæsarean operation, yet the great interests and policy of the nation might forbid the destruction of the child. Of course both the mother and child would be inevitably lost. Should such a case occur, which,

as I said before, is more than possible, then the section of the symphysis of the ossa pubis might be proposed and performed, as it would in some measure meet both these interests; being less horrid to the woman than the Cæsarean operation, and, instead of adding to the danger, give some chance of preserving the life of the child.'"

This testimonial from the eminent and sagacious Dr. Denman is the more extraordinary, as he is an author who joins strongly in the cry against the operation, and expressly says, in regard to the above passage quoted from his own work on *Midwifery*, that he does not "mean to insinuate a wish or advance an argument in favour of this operation, in the cases for which it was originally proposed, or any other which can be imagined.

"The last paragraph of the passage just quoted gives in few words a general notion of the cases to which this operation may yet be adapted. But it must be remembered that, in our day, a section of this class of cases has already been provided with a suitable treatment in the operation of premature labour; an operation, however, whose use is not inconsistent with the simultaneous use of symphyseotomy."

**ART. 137.—*Cases of Cæsarean Section.*** By (1) MM. BARJAVEL, of Carpentras, (2) BAZZONI, (3) PAGENSTECHER, (4) HAMER, (5) GIORDANO, (6) ANGULO, (7) GILMAN, and (8) KILIAN.

- 1. (*Rév. Thér. des Méd.*, 1854; and *Med.-Chir. Rev.*, Oct., 1854.)
- 2. (*Gaz. Lomb.*; and *Edinb. Monthly Journal*, Oct., 1854.)
- 3. (*Gaz. Hebdom.*, Sept. 22, 1854.)
- 4. (*Schm. Jahrb.*; *Ht.* 7, 1854; and *Edinb. Mon. Journal*, Oct., 1854.)
- 5. (*Gaz. Hebdom.*, Oct. 20, 1854.)
- 6. (*El Porvenir Méd.*; and *Phil. Examiner*, Sept., 1854.)
- 7. (*American Journal of Medical Science*, April, 1854.)
- 8. (*Prag. Viertelj.*, 1854; *Medico-Chir. Rev.*, July, 1854.) ]

These cases are unusually fortunate in their results. In four of them the mother and child were both saved. In two the mother was saved. In one the child was saved, and the mother lived for upwards of three weeks; and, in the remaining one, the mother died, it is true, and from sudden hemorrhage, but not until she had *twice recovered from the same operation*. The fate of the child in this last operation is not stated, but the child delivered by the second operation lived for 18 years.

**1. M. Barjavel's Case.**—Madame Crémieux, a Jewess, born about 1788, affected with marked deformity of the skeleton from scrofula, arrived at the end of her first pregnancy in 1812. The child presented by the feet. The late M. Laurens being called by the midwife, tried to extract it, but only succeeded in bringing away the limbs of the trunk, the head remaining in the uterus. M. Barjavel, sen., effected the delivery by Cæsarian section, and the woman recovered between the 30th and 40th days. On the 27th Feb., 1815, she was again in labour. The child presented by the back, and became impacted. M. Barjavel performed the Cæsarian operation again. The child was suckled by the mother, and it survived until 1833. On the 22d of April 1819, she was again in labour. On this occasion a young surgeon, recently arrived from Paris, was called, and he performed Lauverjat's opera-

tion of the transverse section on one side of the abdomen, and without success ; the patient sinking from hemorrhage on the same day.

2. *M. Bazzoni's Case.*—The patient, who was a strong, well-made woman, unaffected by rachitis or any other constitutional malady, was first delivered of twins. Thirteen months thereafter the author delivered her again of a child, which, from its presenting with the shoulder, was extracted by turning and forceps. In her next labour, which happened two years after this, Bazzoni found the diameter of the pelvic outlet contracted to  $2\frac{1}{2}$  inches by a tumour firmly attached to the promontory of the sacrum. The Cæsarian section was performed, and a dead child, with a small but well-formed head, extracted. The mother, then in her twenty-third year, was bled, and ice applied ; and in 29 days she was quite recovered. Another pregnancy occurred, and the author, examining her in the fourth month, found the tumour increased in size, and the os uteri situated very high in the pelvis. He induced premature labour by rupturing the membranes, and in a few days the patient was quite well.

3. *M. Pagenstecher's Case.*—Madame Hammes, æt. 33, became pregnant for the fourth time after an interval of five years. During her last pregnancy she became subject to rachitis. On examination, the pelvis was found to be so distorted that it was barely possible to introduce the tip of the finger between the symphysis pubis and the sacrum, and there was no alternative but to perform the Cæsarian section. This was done on the 9th of Sept., 1852. Afterwards, compresses and a bladder full of ice were applied to the abdomen, and the recovery was not retarded by any unfavorable symptoms. On the 3d of Nov. she got a severe cold on going out to the baptism of her child, but this yielded to treatment, and she got well eventually.

4. *M. Hamer's Case.*—The patient was a primipara, æt. 30, who in early life had been affected with rachitis. Labour pains commenced, at the normal end of pregnancy, on the 2d February, 1853, which were regular and normal, both as to length and frequency. At 8 p.m. the membranes burst ; but owing to the head not descending into the pelvis, and the pains becoming arrested, it was thought advisable to resort to turning. The hand could not be introduced, however, for want of space between the pubis and the promontory of the sacrum, the distance between them being only  $2\frac{1}{2}$  inches. To save the life of the child, the Cæsarian section was performed at 11 p.m. The external incision was made along the linea alba, but on laying open the uterus it was found that the knife had divided the placenta, thereby causing a considerable amount of hemorrhage. The extraction of the placenta and the child occupied only a few seconds, and the uterus thereafter became firmly contracted. The child, a boy, survived the operation. The edges of the incisions were united by sutures, and a bandage was applied. Next evening, considerable pain was felt in the hypogastric region, but emptying the bladder by means of the catheter gave instant relief. This was afterwards done frequently with great benefit to the patient. On the 4th Feb. the abdomen was tympanitic, (meteorism,) the tongue was dry, and the pulse frequent ; but the lochial discharge continued quite normal. Enemata were ordered, and also the application of ice. Next day there was considerable abdominal tenderness, and vomiting of green matter ; the violence of the vomiting caused three of the sutures to give way, whereby the protruding uterus was exposed at the bottom of the deep gaping wound. Twenty leeches were applied to the tenderest part of the abdomen, cold applications were ordered, and the edges of the wound were brought together by means of adhesive plaster. The enemata formerly ordered having failed in giving relief, an elastic tube was introduced into the rectum, which evacuated a

great quantity of gas; and an enema was thrown up by means of it into the bowels, which caused a copious dejection of faeces. Thereafter the meteorism was diminished, the pain abated, and the vomiting ceased. A quarter of a grain of morphia was then administered, which induced sleep. The strips of plaster being insufficient to maintain effective union between the edges of the abdominal wounds, the following device was adopted to ensure their adequate support: Two pieces of wood, having three silk threads attached to each, were rolled in long strips of plaster. These strips were so applied, from the lumbar region, that the pieces of wood lay longitudinally on the mesial line, closely embracing both sides of the wound. The silk threads were then tied, and the aperture was completely closed. Next night the patient was easier and free from pain; the secretions were once more established, and in six weeks after this time her recovery was complete.

5. *M. Giordano's case.*—The patient in this case was 19 years of age, and very rachitic. The confinement was her first. When very young a carriage had run over her and broken both her thighs, and injured her pelvis. When admitted into the Maternity Hospital, at Turin, she had been thirty-six hours in labour. The pelvic contraction was such as to necessitate the Cæsarian section, and this was done on the 5th of May last, and a living child extracted by the breech, with little loss of blood, and without any great shock to the mother. All went on favorably for the first thirty-six hours, and then violent peritonitis set in. For this, vigorous depleting measures were adopted. Some days afterwards a considerable quantity of blood, mingled with pus, escaped from the lower part of the wound. After this, matters went on favorably up to the 19th day, when phlegmasia dolens and fever set in. The patient finally sank on the 26th day after the operation.

It appears that the Cæsarian section has been performed thrice previously in the same hospital during the last sixteen years, and that in each case the mother died of peritonitis during the first three or four days.

6. *M. Angulo's case.*—M. Angulo's patient was 37 years of age, a wretchedly weak and rickety dwarf, in labour for the first time. The labour had already lasted four days. The patient had not much attention after the operation, but perhaps this is not to be much regretted. The operator thus writes:

"The patient was placed horizontally on a table, and I made in the direction of the linea alba, an incision which extended from four lines below the umbilicus to the symphysis pubis; and then cutting the muscular parietes, and introducing at the upper angle of the wound my left index finger to serve as a conductor, with a blunt-pointed bistoury, I incised the peritoneum to the extent of the external wound. I had made scarcely half of this incision when an ounce of clear water escaped, which at first I believed proceeded from the bladder, but afterwards, saw that it did not. The opening of the integuments was about six inches long, and through it the uterus could be perceived, of a rubicund appearance. I made a small incision through its inferior part, through which I introduced the extremity of my left index, and then cutting from below upwards, to the extent of five inches, I saw the foetus presented the back and buttock. As the incision did not extend to the insertion of the placenta, no hemorrhage supervened; I gently extracted the child from the womb. It was alive, and a female of moderate strength and constitution. The uterus contracted the moment the secundines were removed, and by aid of a gentle pressure, exit was given to a small quantity of blood which had entered the cavity of the abdomen, avoiding hernia of the intestines, by approximating the edges of the wound. The patient, who did not complain during the operation, was perfectly tranquil. The wound was dressed with a suture and adhesive straps, over which dry lint and compresses were applied,

the whole sustained by a bandage around the body. As I could not visit the patient daily, I left instructions with the husband. I did not return to see her till after eight days; and I found her without fever, the lochia flowing well, and sufficient milk in the breast to suckle the child. At the end of thirteen days, only a small point remained to be cicatrized, and this was abandoned to nature: in a word, in a few days the patient was perfectly re-established, with plenty of milk, and the child in a very satisfactory condition."

7. *Dr. Gilman's Case.*—In this case gastrotomy was performed twenty-one hours after rupture of the uterus, and a dead child removed from the abdominal cavity, with a successful result. The case is useful both for warning and instruction. Dr. Gilman writes :

" Mrs. Hickey, an Irish woman, aged about thirty years, of small stature, spare habit, and delicate constitution, was taken with labour pains, her third confinement, early in the morning of September 24, 1853. Her previous labours were severe and protracted, especially the second, when the child was taken with forceps, while the mother was suffering with puerperal convulsions.

" Her physician, on the present occasion, informed me that he was called at 10 a.m.; labour pains were then frequent and regular; the os uteri sufficiently dilated to admit the end of his finger; the membranes entire; the head presenting. Her pains increased in strength and frequency through the day, although they accomplished but little; the os, at 9 p.m., being rigid, and dilated only to the size of a quarter of a dollar; the head remaining in the superior strait.

" At 11 p.m., after a pain of great severity, the patient complained, suddenly and urgently, of great abdominal distress; and there was an entire cessation of uterine pains. He, believing labour was suspended, and that his services would not be required for the night, left his patient at twelve. He was summoned again at an early hour in the morning, and found her free from uterine pain, but having the same indescribable abdominal distress. Considerable flowing had occurred, and she was somewhat exhausted. On examination per vaginam, the presenting part was found to have receded—the head could not be felt. He administered stimulating drinks and ergot in repeated doses, with the hope that they would excite uterine action. Failing to accomplish this, and conscious that something of a serious nature had occurred to his patient, he called Dr. Durgin, of this city, in consultation. After making a careful examination, Dr. D. suspected that the uterus was ruptured, and the child had escaped into the cavity of the abdomen.

" I was called to the case late in the afternoon of Sunday, with Drs. Daveis, Thomas, and Le Prohon. We found a rent of the uterus, extending from the os upwards and backwards, and the organ itself firmly contracted. No part of the child could be felt. The abdomen was enormously distended, and so tender that she could not bear the slightest pressure upon it. She was in great distress, and entreated earnestly for relief.

" The deplorable situation of the patient was faithfully represented to her and her friends, and the operation of gastrotomy proposed as affording the best, if not the only chance of recovery, which was readily assented to.

" The patient was removed from her bedroom to a spacious adjoining chamber, the temperature of which had been raised to about 80°, and placed upon a mattress resting on two firm tables. Pure sulphuric ether was first administered, but failing to produce its anesthetic effect, chloroform was substituted, and the patient soon brought under its influence.

" The water having been drawn from the bladder by the introduction of a

very small gum-elastic catheter, assisted by the gentlemen before mentioned, I made an incision through the abdominal parietes, commencing an inch above the umbilicus, and extending down along the inner edge of the left rectus muscle to within an inch of the pubes. The back of the child presented to the parietes, the head resting on the pubes.

"The abstraction of the child and placenta was soon accomplished ; coagula, and the fluids effused into the cavity of the abdomen, were expelled through the aperture. The divided surfaces were carefully brought together and secured by ligatures and adhesive straps, and a wide flannel swathe placed around the abdomen. The child was of large size and well formed, and had remained doubtless in the abdominal cavity from 11 p.m. Saturday, till 8 p.m. Sunday—a period of twenty-one hours.

"The patient soon recovered from the effect of the chloroform, and expressed herself as being entirely free from distress, and not feeling so much exhaustion as after her previous confinements ; and, indeed, the vital powers did not seem so much depressed after as before the operation. An opiate was administered, and our patient, hopeful and happy, was left in the care of faithful attendants for the night.

"Monday morning, 26th.—Patient slept well ; free from pain ; but little tenderness or fulness of the bowels ; pulse 90, with good expression of countenance ; evening, the same.

"Tuesday morning, 27th.—Pulse 95 ; slept part of the night ; abdomen more swollen and tender ; directed an enema of castor-oil and the oil of turpentine, and the application of strong mercurial ointment to the abdomen, covered with oiled silk. Evening. Enema operated well, and gave sensible relief.

"Wednesday morning, 28th.—Passed a sleepless night ; increased abdominal swelling and tenderness ; pulse 105 ; increased thirst ; regurgitation of drinks from the stomach. Evening. Thirst and fever augmented ; bowels tympanitic, with almost constant surging of wind, and regurgitation from the stomach.

"Thursday morning, 29th.—Passed a very restless and uncomfortable night ; pulse 112, with increased tympanitis, tenderness, &c. ; regurgitation of yellow bile ; sufferings augmented by bronchial irritation and cough. Directed an ounce of castor-oil to be given with a drachm of oil of turpentine. Evening. Cathartic operated powerfully, and with great relief to the patient ; pulse 105 ; bowels softer, and less tender ; all the symptoms better.

"Friday morning, 30th.—Had a good night, with some quiet sleep ; pulse 105. In the afternoon, all the distressing symptoms before enumerated returned with increased severity, and continued till 10 p.m., when a spontaneous diarrhoea came on, with very decided relief to the patient.

"Saturday morning, Oct. 1st.—Pulse 100 ; diarrhoea continues ; symptoms more favorable ; patient pronounces herself better.

"Sunday morning, 2d.—Patient better ; diarrhoea continues, but not to such a degree as to require any interference.

"Monday morning, 3d.—A decided improvement in every respect ; all the symptoms highly favorable.

"The patient continued to improve daily. The mercurial ointment was discontinued on the tenth day, having made a decided impression upon the system. The external wound, at that time, had united at several points, and presented a healthy appearance. The convalescence was rapid and uninterrupted. The patient was able to sit up on the fourth week, to walk about her chamber on the fifth, and to resume her domestic duties on the seventh.

"At the present time, more than four months since the operation, Mrs. Hickey is in excellent health, and fully competent to discharge all the duties —laborious as some of them are—which belong to her humble condition in life."

## (B) CONCERNING THE DISEASES OF WOMEN.

ART. 138.—*On the treatment of Leucorrhœa by the local application of the powder of tris-nitrate of Bismuth.* By M. E. CABY, Interne à l'Hôpital St. Lazare.

(*Rév. Méd. Chir. de Paris*, Aug., 1854.)

The success of M. Monneret in the treatment of diarrhoea and dysentery by large doses of tris-nitrate of bismuth, has lead M. Caby to try the same treatment in leucorrhœa and analogous discharges; and, according to his own statement, his success has been no less marked.

His plan is, to cover the whole vaginal mucous membrane with the dry powder of the tris-nitrate. In order to do this, he introduces a speculum, and, beginning at the cervix uteri, he powders the whole course of the passage from above downwards, as he withdraws the instrument. He applies the powder by means of a small pledget of *charpie*. This he does once a day. M. Caby states that this treatment answers equally in acute and chronic, in specific and simple disorders, and whether the mucous surface be broken by ulceration or not. He states, further, that it causes no pain, and that its action is almost immediate. M. Caby intends to publish a memoir on the subject presently.

M. Caby also states that the tris-nitrate, suspended in water, injected into the urethra, and detained there until it has had time to become deposited on the mucous membrane, is equally efficacious in putting a stop to gonorrhœa or gleet in man, and that the duration of the treatment by this means varies from 4 to 10 days.

ART. 139.—*On the use and abuse of Potassa-fusa and Potassa cum Calce, in the treatment of Uterine disease.* By Dr. HENRY BENNETT.

(*Lancet*, July 15 and Aug. 5, 1854.)

In this paper Dr. Bennett begins by remarking, that it is now more than nine years ago since he first introduced potassa fusa, and potassa cum calce to the profession, as valuable agents in the treatment of uterine inflammation. They had since been adopted by many practitioners, but, from some cases he had seen, he had reason to believe that they were not always used with the care and caution which were imperatively required, and he was, therefore, anxious to lay down, even more carefully than before, the rules which ought to regulate practitioners who resort to so powerful an agent. After using, for many years, pure potassa fusa, or potassa cum calce paste, he had managed to obtain cylinders of potassa cum calce, in the proportion of two parts of potash to one of lime, which did not deliquesce, and were nearly as manageable as nitrate of silver, and therefore free from many of the objections urged against potassa fusa. The conditions of local uterine disease, in which he considered that caustic potash, or the actual cautery, the action of which was identical, was applicable, were the following: Chronic inflammation or inflammatory ulceration of the mucous membrane covering the cervix, or lining its cavity, intractable

to other treatment; chronic inflammatory hypertrophy of the cervix, also intractable to other means; and, lastly, chronic inflammation of the body of the uterus, in which form of disease the potash is merely applied to the cervix to produce a derivative issue, as we should apply an issue to the back in disease of the spine. In the first class of cases, the caustic potash is used with a view to modify the morbid vitality of the diseased tissues, and to substitute a healthy reparative action instead. In cases of hypertrophy, the elimination of a moderate-sized eschar on the enlarged cervix is attended with acute congestion or inflammation of the subjacent hypertrophied tissues, and under its influence the latter soften, and melt, as it were, or are absorbed. The object was not by any means to destroy the enlarged cervix, but to procure its absorption as above. When applied to the cervical canal, the caustic potash reaches the mucous follicles concealed between the rugæ of the arbor vitæ, which are occasionally the seat of chronic inflammation, and resist every other means of treatment. Although looking upon the use of caustic potash as one of the most valuable contributions ever made to uterine pathology, he wished it to be well understood that he considered it an *ultima ratio*, a last resource, only to be employed when all other means of treatment, general and local, had failed. If used cautiously, there was no danger whatever incurred by the patient; but if incautiously or imprudently employed, serious results might follow. Thus, the inflammation produced in the cervix might pass to the uterus. He had known also the vagina compromised by the extension of the caustic to it, and had seen several cases in which the potash, having been employed too freely to the cervical canal, the os or canal had been nearly obliterated by its subsequent contraction, and by the adhesion of its parietes. To prevent these accidents, he advised practitioners never to attempt to destroy the hypertrophied cervix, as had been proposed, but to be satisfied with producing the eliminatory inflammation already described; to use the potassa cum calce cylinders, which do not deliquesce and run; and when the potassa is applied to the cervical canal, to apply it very gently, and to pass a bougie through the canal once or twice a week for six weeks after. By adopting these precautions, no fear of any accident need be entertained. This means of treatment, however, he only recommended when other treatment, general or local, had failed to restore the diseased organs to a natural state. He never resorted to it in passive hypertrophy, either of the cervix or uterus, which he thought might be safely left to nature, time, and general treatment. It had been often stated that the use of caustic potash to the cervix left indurated cicatrices, which might impede subsequent labours. This was by no means the case; so far from producing induration, this mode of treatment melted and removed it, and facilitated parturition. Indeed, he was becoming more and more convinced of the truth of a statement he had made many years ago, that rigidity of the os in labour was nearly always the result of previous inflammatory disease.

ART. 140.—*Case of Hydrometra.* By Dr. LEWIS SHANKS, Professor of Midwifery in Memphis Medical College.

(*American Quarterly Journal of Medicine*, July, 1854.)

Cases of this kind are so uncommon that their existence is doubted by some authorities in obstetrics. It is important, therefore, to preserve all the marks which may serve in the diagnosis, and thus we give the case without abbreviation. Dr. Shanks writes :

CASE.—The subject of this case, Mrs. W., was about fifty-three years of age, of sanguineous temperament, tall, and rather slender, of more than ordinary intelligence and physical energy; she had given birth to, and raised, ten children. The youngest was born in 1841, twelve years since; soon after which she lost her husband, and remained a widow six or seven years. She has been married to her present husband five or six years. Menstruation ceased at the age of forty-seven or forty-eight, about five years since. Previous to, and for three years after the cessation of her menstrual periods, her health was good.

She was attacked two years ago with an acute bowel affection of a dysenteric character, which became chronic and protracted, and, as she supposed, originated uterine disease.

The first symptoms of the disease of the uterus supervened upon the chronic dysentery, and consisted of a tumour in the lower part of the abdomen.

This uterine tumour, though somewhat sensitive upon pressure, did not produce for months much inconvenience, either from its size or tenderness. Twelve months since, however, she was induced to consult her medical attendant, and subsequently several physicians. Different opinions having been expressed to her, as to the organs involved, and their true pathological state, and the enlargement of the abdomen having increased so much as to make her condition very uncomfortable, she came to the city for the purpose of consulting, and putting herself under the treatment, of Dr. Fruyser and myself.

Upon a careful examination of her condition, and the history of her case, we were satisfied that the great enlargement of the abdomen was produced by the expanded uterus, and that the large amount of fluid in the uterus was contained either in its proper cavity—the internal opening of the cervix being occluded—or in a large intra-uterine cyst, which expanded the organ. This diagnosis was made from the very distinct abdominal fluctuation produced by palpation, and from the expanded condition of the cervix and lower segment of the uterus, ascertained by the vaginal and rectal examination. Though the enlarged and expanded state of the lower portion of the uterus was certainly ascertained to constitute the lower portion of the *great* tumour which filled the abdomen, there was so much hypertrophy and induration of this portion of the uterine walls, that no distinct fluctuation at the point of vaginal touch could be produced by abdominal palpation. The os was low down in the pelvis, and could readily be reached, above the posterior commissure of the vulva; and though the walls of the cervix were abruptly expanded and greatly consolidated, the first phalanx of the index finger could readily be introduced into the os.

Having made this diagnosis of the case, it was decided that the occluded cervix, or the cyst within the cavity of the womb, should be opened the next day, and the contained fluid drawn off, as there was danger, from the great distension of the abdomen, of a rupture of the womb. There was no ulcer-

tion of the os, no ichorous or offensive discharge, indicating either concealed ulceration or malignant disease, though the induration and thickening of the walls of the cervix were unusually great, and, to the touch, of almost cartilaginous hardness.

February 6th, 1854.—After an unsuccessful effort to introduce a common-sized metallic bougie, and different-sized catheters, I resorted to the common-sized uterine porte-caustique. After bending the end of the staff, which projected an inch and a half through the canula, so as to enable me to push it upwards and forwards behind the pubes, in the direction of the axis of the cervix, and towards the centre of the tumour; I succeeded, by using a moderate degree of force, in passing it two inches into the cervix; then meeting with elastic resistance, produced by the cyst, I forced the point of the staff in the direction of the centre of the tumour, through the cyst, into its cavity; the canula was then pushed into the cavity of the cyst, and the staff withdrawn.

Two ounces of a thick and gelatinous fluid, of a brownish colour, like honey, were evacuated. The staff was again introduced through the canula, and pushed into the large cyst, when eighteen pints of sero-sanguinolent fluid were drawn off without further difficulty.

The hypertrophied walls of the cervix were so consolidated as to nearly close the opening or channel through the neck, and to embrace firmly the canula, though not larger than a small-sized catheter. This narrow channel from the os, through the cervix to the cavity, was two inches or more, and clasped the canula so tight as to require some force for its withdrawal; and the density of the cyst was rendered obvious by the very perceptible jerk produced by its walls slipping over the end of the canula when it was withdrawn.

After the water was discharged, the hypertrophied and indurated state of the neck and lower segment of the body of the uterus was more manifest and better defined. The general structure of the uterus was soft and flabby, and remained uncontracted; but the thickened and indurated neck and lower segment of the body projected up on the sides in the iliac fossa, so as to form on the lateral uterine walls, a distinct circular ridge, like the sides of a bowl. This indurated portion of the womb was attached by adhesive inflammation to the pubes and other surrounding parts, so as to fix the womb firmly in its position. The chief pain and soreness, during the progress of the disease, and at the time of the operation, was in this indurated portion and the surrounding tissues to which it was attached. For several weeks before the operation, the great distension of the womb and enlargement of the abdomen, not only made her constantly uncomfortable, but disqualified her from turning in bed, without raising herself up, so as to prevent the dragging and pain produced by it in the lower portion of the tumour and its surrounding parts.

After the womb was evacuated she was much more comfortable, and continued so until the fluid accumulated again. Though quietude, laxatives, and alteratives were instituted to prevent inflammation, and the accumulation of the fluid, in a month she was again so much enlarged as to require another operation.

On the 7th of March, I drew off, in the same way as by the first operation, fourteen pints of fluid. Though not so large as before, her stomach and general health were more impaired. The fluid presented more the appearance of an admixture of pus and mucus, or albuminous matter with the serum, being thicker and more tenacious. When the cyst was evacuated, I injected through the canula about 20 oz. of water, with 3ij of tr. of iodine added to it. This was agitated in the sac a few minutes and then withdrawn.

As a general course of treatment, she was then directed to wear a tight flannel abdominal bandage; twice a day to paint the hypogastric and iliac regions with the tr. of iodine; to take at bedtime, as an alterative and tonic, a pill containing proto-iod. hydrarg., extr. colocynth. comp., extr. cinchon., each, a grain, and 8 drops of syr. ferri iod., three times a day. Under this course her general health improved, and the fluid accumulated much slower.

April 16th.—Six weeks since the last operation; she came in her carriage from her home, about twenty miles, to the city. Though the womb was very much distended again, her general health was much better. Being desirous to try the effect of Bailey's Spring, near Tuscumbia, Ala., a water of much celebrity in dropsical cases; to prepare her for her journey, and for the more favorable action of the medicinal water, I drew off eighteen pints of fluid again on the 17th of April. It presented less appearance of the admixture of pus or mucus with the serum, than at any previous operation. I injected again about  $\frac{3}{4}$ xx of water, with 3iv of tr. of iod. This produced a slight diffused sensation of burning in the cavity of the sac, which soon passed off, and she felt very comfortable after it.

The second and third operations indicated less consolidation and contraction in the cervix, but the dense membranous cyst was more obvious and resisting to the blunt end of the porte-caustique staff, requiring considerable force to puncture it and penetrate the cavity.

Since her departure from here, on the 19th of April, three days after the operation, I have not heard from her.

**ART. 141.—*The surgical treatment of certain fibrous Tumours of the Uterus, heretofore considered beyond the reach of art.***  
By Dr. WASHINGTON L. ATLEE.

(*Transactions of the American Medical Association, 1853; Med.-Chir. Rev., July, 1854.*)

The following analysis is from the pen of Dr. Barnes.

In this essay, which is a prize essay, Dr. Atlee puts forth some rather bold innovations in the surgical treatment of fibrous tumours of the uterus. He classifies these tumours according to their situation, into extra-uterine, intra-uterine, and intra-mural. He does not appear to regard tumours of any kind or situation to be beyond the reach of surgical treatment. He believes that the true fibrous tumour occasionally degenerates into cancerous disease.

One of Dr. Atlee's principles of treatment is based upon the following view: "These tumours are very imperfectly organized; consequently their vitality may be very easily destroyed. A section made through their thin investing membrane will sometimes be followed by the death of the whole mass. This may be owing to the admission of atmospheric air causing it to degenerate. Indeed, it would appear that the action of the oxygen of the air, like a portion of yeast in a fermentable mass, may originate in any part of a fibrous tumour, an action of eremacausis which may extend throughout the whole."

Another mode of treatment is thus stated: "The excessive hemorrhages which sometimes occur, arise not from the uterus itself, but from the vessels of the membrane which covers the tumours. These floodings, I think, occur in this way: the veins of the investing membrane become at times greatly engorged, in consequence of their

circulation being impeded by the muscular action of the uterus, while the arteries, by reason of their more resisting coats, continue to supply them with blood. The point of least resistance must necessarily be at the os uteri, as all other parts are compressed by the contracting uterus. The veins on the surface are thus distended. The mucous membrane is delicate, and offers but little resistance to the rupture of these vessels. Now the practice which I wish to inculcate, as based upon the above fact, and which has invariably arrested hemorrhage instantaneously, is, *during hemorrhage to pass the bistoury along the vagina into the cavity of the uterus, and make a very free incision into the most exposed portion of the tumour.*"

As the most comprehensive way of conveying some idea of the operative proceedings of Dr. Atlee, and their results, we extract the headings of the cases related, with brief remarks in illustration.

CASE 1.—"Mrs. M., æt. 49; tumour intra-uterine, nearly its entire surface sealed to the interior of the uterus, even down to the edge of the os tincæ; *the whole tumour removed*; supposed weight, ten pounds; recovered; death subsequently from inflammation of the lungs." The plan resorted to, was by successive operations to separate the adhesions, and to force the tumour lower into the pelvis by ergot. Portions of the tumour were then cut off by the bistoury. The next step was to bring away pendulous portions with the cranial perforator. After persisting in this course for a considerable time, the uterus being supported externally, Dr. Atlee "succeeded in breaking up the whole internal structure of the tumour, and in scooping out a large quantity of it." This proceeding was repeated some days after. Every one will share in the regret expressed by the author, "that an imprudent exposure to cold, and a subsequent alarm, interfered with the recovery of the patient, by establishing a fatal disease in the lungs at the very moment when the patient herself, her friends, and the surgeons were congratulating themselves on the successful issue of this unique case."

CASE 2.—"Mrs. J. M., æt. 49; tumour intra-mural, having been developed in the posterior wall of the uterus, and expanding that wall into a cyst inclosing it; *the whole tumour removed*; supposed weight, four or five pounds; recovered." A sketch illustrating this case represents the tumour very much larger than the uterus itself. A similar treatment by ergot and incisions through the tumour was adopted. Dr. Atlee remarks, that although a long and deep section of the tumour and its coating was made, no hemorrhage followed, notwithstanding severe floodings had previously occurred. The operation attempted was that of enucleation; but the greater portion of the mass gradually wasted away by a species of decomposition.

CASE 3.—"Mrs. J. M'B., aged 30; tumour intra-uterine; os tincæ thick and closed; whole tumour removed; supposed weight, six or seven pounds; recovered. Subsequent reproduction of the tumour; again removed; recovered."

CASE 4.—"Miss M. T., æt. 33, tumour intra-uterine, its entire surface intimately incorporated with the interior of the uterus; *its removal attempted by gastrotomy*, which failed; subsequent recovery, and an attempt made to remove it per vias naturales; death from erysipelas."

CASE 5.—"Miss M. B., æt. 36; tumour intra-uterine, and distended the uterus to the size of full pregnancy; os tincæ closed; cervix entire and dense; orifice very small; the whole tumour removed; supposed weight eight or nine pounds; recovered." Ergot, detachment of the adhesions, and cutting into the substance of the tumour, so as to induce decomposition, were the means employed. The cervix uteri was first incised, so as to facilitate its expansion.

CASE 6.—“Mrs. S. B. K., æt. 42; tumour intra-mural; was developed in the posterior wall of the cervix, expanding it into the form of a cyst; occupied the abdomen to the height of the umbilicus; patient bloodless from repeated floodings, and her life in imminent hazard from present hemorrhage; bleeding ceased immediately on operating, (a long bistoury was introduced into the cavity of the uterus, the edge turned backward upon the tumour, the posterior wall of the cervix and os uteri, down through the corresponding wall of the vagina which formed the antero-inferior covering of the tumour cut through, the tumour incised, enucleation;) removed the whole mass, weighing nine or ten pounds, at once through the os externum. Death from anaemia.”

CASE 7.—“Miss A. B., æt. 49; tumour intra-uterine, and sealed to the interior surface of the uterus, extending to within one inch of the umbilicus; the cervix was lost in the tumour, and the os was firm and ring-like; removed one third of the tumour; died suddenly from disease of the heart.” Operation: ergot, detachment of adhesions, incisions into tumour, incisions of os uteri, crotchet to aid in disintegrating tumour.

CASE 8.—“Miss H. B., æt. 31; tumour intra-uterine, and sealed to the interior of the uterus; very prominent, and extended above the umbilicus; cervix entire and moveable on the tumour; os tincæ closed; supposed weight seven or eight pounds; recovered.” Operation: os and cervix opened by the knife; the tumour incised, degeneration (sloughing) induced; ergot.

CASE 9.—“Mrs. E. B., æt. 36; tumour, intra-mural; cervix uteri bent against the tumour at an acute angle; operative measures (ergot, incisions of os and cervix, and into tumour) discontinued before the tumour entirely disappeared; recovered.”

CASE 10.—“Miss E. K., æt. 35; tumour intra-mural, very prominent above the pubis, extends upwards within  $2\frac{1}{2}$  inches of the umbilicus; cervix folded up against the tumour; tumour as large as a child's head; removed in detached portions; apparent convalescence; death from peritonitis; disease malignant.” Operation: ergot, incision into tumour, partial enucleation, putrefaction induced.

CASE 11.—“Mrs. E. W., æt. 47; tumour intra-mural; the whole anterior wall nodulated from the fundus to the os tincæ; patient perfectly anaemic; incised the whole length of the uterus; recovered.” In this case, the removal of the tumour does not appear to have been undertaken: the incision was intended to arrest the hemorrhage, which it is said to have accomplished.

CASE 12.—“Mrs. E. A. M., æt. 42; tumour extra-uterine or pelvic; the uterus and bladder raised into the abdomen; *gastrotomy*; non-removal of the tumour; recovery from the operation; subsequent operations per *viæ naturales*; tumour diminished in size; recovered.” The subsequent operations were—incisions into the tumour, partial enucleation, setting-up of *eremacausis*.

CASE 13.—“Mrs. W. G., æt. 62; tumour intra-uterine; attached to cervix; tumour removed; recovered from the operation; apprehension of cancerous degeneration.”

CASE 14.—“Mrs. S. G., æt. 49; tumour intra-mural; having been developed in the anterior wall of the uterus, and expanding that wall into a cyst enclosing it; the whole tumour removed; supposed weight, seven or eight pounds; recovered.” Operation: ergot, incisions into tumour; partial enucleation; removal of portions by crotchet and forceps; induction of *eremacausis* in remainder.

**ART. 142.—Cases of Ovariotomy.** By (1) Drs. BRADFORD and DUNLOP; (2), PROF. LANGENBECK; and (3), Mr. TEALE.

1. (*American Journal of Medical Science*, April, 1854.)
2. (*Deutsche Klinik*; and *Edinb. Monthly Journal*, Aug., 1854.)
3. (*Medical Times and Gazette*, July 1, 1854.)

Of the three cases which are here recorded, the first two were successful; the last, not.

1. *Drs. Bradford's and Dunlop's case.*—The patient unmarried, and in her 21st year, had suffering from ovarian tumours for 12 years. The tumour, which had never been tapped, was very large, reaching the ensiform cartilage, distending enormously the false ribs, hanging in folds laterally over the spine, pressing up the spleen, pancreas, liver, and stomach, so as to elevate the diaphragm, and contracting very considerably the thoracic space. The tumour had so completely filled up the abdomen that it was difficult to tell upon which side the preponderance lay. The cyst seemed round and smooth, on feeling it through the parietes of the abdomen, and *unilocular* in its character. Upon the anterior superior part of the tumour above the umbilicus there was a hard *bony substance*, evidently imbedded in the sac, and seemingly about the size of the bottom of a saucer. The patient's health had suffered considerably, and lately she had had several attacks of peritonitis. The operation was performed on the 14th of June, 1853. The patient was placed upon a table with the shoulders slightly elevated, the feet resting on a chair, and when sufficiently under the influence of chloroform, an incision through the *linea alba*, below the umbilicus, of about five inches, was made; the integuments, layer by layer, were carefully divided, until the ovarian cyst was exposed to view, which may be readily known by its remarkably bright glossy appearance; then by the use of the fingers and the probe-pointed bistoury, the incision was carried upward two inches above the umbilicus, and downwards to the pubis. The hand being now introduced and carefully glided round over the cyst, it was found that a strong adhesion to the omentum existed at the upper part of the tumour; and believing it to be safer to divide all adhesions except at the base of the tumour, before puncturing the sac, I was compelled to extend the incision four or five inches higher, which made an incision in the aggregate over the tumour of from eighteen to twenty inches in length. The bands connecting the tumour to the omentum proved to be large and very firm, and were inserted by several points into the *bony substance*, which had been recognised before the operation. It required considerable force to break up the adhesions, which was done by Dr. Dunlap, my assistant, with the fingers and handle of the scalpel. Very little hemorrhage occurred from so large an adhesion, so little, indeed, that no ligature was applied. The most pendant part of the sac between the umbilicus and pubis was now punctured; whilst an assistant placed the palms of his hands along the edges of the wound, immediately opposite to the puncture, to prevent the escape of fluid into the abdominal cavity, and with the extremities of the fingers

gradually compressed the walls of the tumour, to expedite the escape of the liquid contents. After drawing off a considerable quantity of the straw-coloured liquid, we attempted to raise the tumour out of the abdomen, but finding it yet too heavy to handle, we determined to draw off what fluid still remained. This being done, Dr. Duke placed his forefinger in the orifice punctured, which enabled us readily to get to the base of the tumour, where, fortunately, there were no serious adhesions. Lifting the tumour from its cavity, the pedicle was transfixated with a needle armed with four strands of saddler's silk ; the ligature was then divided at the eye of the needle, and each segment of the pedicle securely tied. The neck of the pedicle being very short, it was divided close to the sac, which is probably the safest, be it long or short.

On examination of the tumour, which weighed forty-one pounds, the hard substance spoken of as felt through the walls of the abdomen, proved to be *perfectly-formed bone*, as large as the bottom of a saucer. The surface of the sac, on the inner and front part, was rugous and uneven, studded over with innumerable small particles of bone, varying in size and shape from that of a thumb-nail, down to that of a pin's head ; whilst that part lying next to the back was smooth, without any appearance of osseous degeneration. At the bottom of the tumour, that part lying in the pelvis, there were several small fleshy tumours of various sizes, from that of a cocoa-nut to that of a hen's egg. On cutting into these tumours, a little jelly-like fluid escaped, and within each one there were found to be a series of still smaller sacs of various shapes. Extending the examination still further, and cutting into these tumours each one had its little group of tumours still smaller and smaller, each one, however small, containing its group, and, when opened, manifesting the same curious variety of shapes.

The recovery was uninterrupted, except by a cough on the ninth day. The ligature came away in the sixth week, a week after she had returned home. And seven months afterwards she is reported as in good health, and a gainer by forty pounds in weight.

It appears that the same gentlemen have operated successfully in four such cases.

2. *M. Langenbeck's case.*—An unmarried female, æt. 34, for five years, had a gradually enlarging ovarian tumour, which at length attained so great a size that the abdomen was as distended as it is at the end of pregnancy. This tumour extended from the pelvis to below the false ribs ; it was easily moveable, and was distinctly fluctuating to the touch. At the desire of the patient, and under the influence of chloroform, the operation of ovariotomy was performed. A finger's breadth above the symphysis pubis, an incision of  $2\frac{1}{4}$  inches was made through the integuments of the abdomen, nearly in the line of the linea alba. The cyst, being seized with hooks, was first punctured by a trocar, which evacuated nearly 9 quarts of clear limpid fluid, and thereafter it was pulled out until the pedicle of the tumour was completely exposed. The abdominal incision was closed with six sutures ; strong double ligatures were then passed through and tied round the neck of the tumour ; and next, a ligature was passed both through the pedicle and the lips of the wound. Finally,

the tumour was removed by cutting through its stalk, immediately above the ligatures. The tumour presented one very large cyst; on the extirpated ovary there were two smaller cysts, the size of hazel-nuts, and the Fallopian tube was adherent by its fimbriated extremity. The evacuated fluid contained merely a few epithelial cells, and it coagulated readily with heat. The wound cicatrized in nine weeks, and during the healing process the patient was considerably troubled with colic pains.

3. *Mr. Teale's case.*—Mary Clapham, æt. 21, unmarried, was admitted into the Leeds Infirmary, March 15, 1854, on account of a large fluctuating tumour in the abdomen.

Her complexion was pale and somewhat sallow. She was much emaciated; her disposition cheerful.

She began to menstruate at the age of 17, but has not been unwell since August, 1852. In that month she suffered from a disordered stomach, and from pain in the abdomen. Her body soon afterwards began to swell, not obviously on one side, but from below upwards. She gradually lost flesh, and ill-health compelled her to leave off her employment.

In July, 1853, her medical attendant, Mr. Gardiner, of Guiseley, removed fifty-two pints of fluid by tapping. The abdomen soon became distended again, and the operation was repeated in October, 1853, and in January and February, 1854; the intervals between the operations being sixteen weeks, twelve weeks, and seven weeks.

On her admission, Mr. Teale diagnosed encysted dropsy of the abdomen. The tumour extended as high as the cartilages of the ribs and the ensiform cartilage. In front of the tumour, a few inches above the navel, the transverse colon could be distinctly seen, and its varying size observed as air and other matters were traversing it. On March 28, five weeks after the last operation of tapping, Mr. Teale drew off, by means of the trocar, thirty-six pints of fluid. On the following day the abdomen was flaccid, but, at its lower part, a tense rounded tumour could be felt, reaching nearly as high as the navel. It was therefore apparent that the tumour was multilocular, consisting of one principal and other smaller cyst or cysts. By the use of the uterine sound, the womb was found to move independently of the tumour.

Influenced by the result of these investigations, by the apparent absence of other organic disease, the youth of the patient, the rapidly increasing necessity for tapping, the steadily advancing emaciation, and the urgent desire of the patient and her friends for the removal of the disease by operation, after the great hazard as to the result had been explained to them, Mr. Teale, in consultation with his colleagues, Mr. Smith and Mr. Samuel Hey, decided upon operating.

April 3, at 2 p.m., the patient was brought into the operating room, the temperature of which had been raised to 80°. An incision was made, about four inches in length, between the navel and pubes, dividing the integument and linea alba. The finger of the operator was now passed within the muscular wall of the abdomen, so as to detach the tumour, which adhered to the wall in the site of the former operations of tapping. The parts being so much attenuated by dis-

tension, Mr. Teale was uncertain whether he was merely detaching by the finger the natural filamentous connexions of the fascia transversalis, or separating the two layers of adherent peritoneum; and he therefore proceeded to divide a few fibres of the membrane covering the tumour, which was as thin as paper, and translucent, allowing the fluid contents of the cyst to be seen through it. He had scarcely touched this thin membrane with the scalpel before the cyst was opened, and a copious rush of fluid followed. After about twenty pints had escaped, he proceeded to detach the cyst from the anterior wall of the abdomen, and the hand soon passed freely into the general cavity of the abdomen. Two or three minor cysts were now opened, and their contents discharged. The pedicle was soon reached, and it was found that the tumour was attached to the right ovary and broad ligament by a neck, about twice the thickness of the thumb. The wound in the abdominal wall was next a little extended; a duplicate ligature was passed through the pedicle, and tied on each side of it, and the cyst removed. The wound in the abdomen at its upper part was united by common interrupted suture, and at its lower part by two twisted sutures, the ligatures of the pedicle being brought to the surface along with the stump of the pedicle, and attached to the two pins of the twisted sutures.

The patient, after having been removed to a small ward, of the temperature of 70°, was cheerful, and had a good pulse of 85. She complained of slight faintness, and of pain in the right leg. She was ordered to take twenty minims of tincture of opium immediately, and to repeat ten minims every four hours. Iced water to be taken in small quantities frequently.

5 p.m.—Pulse 84. She has vomited three times a little water and mucus. Complains of thirst, and of pain in the right leg and thigh.

10 p.m.—Pulse 90; vomiting less frequent. She has slept occasionally for a few minutes; pain in the leg relieved; skin moist and warm. She has passed urine freely and without pain.

April 4, 8 a.m.—Pulse rapid, thready, and scarcely perceptible; skin cool and clammy; countenance pallid. During the night she became very restless and exhausted, and was much distressed with vomiting. Spirit of ammonia was given frequently, and the opium discontinued. A little brandy was given, but it seemed to aggravate the vomiting.

Noon.—She gradually sank during the morning, and died at noon.

*Examination ten hours after death.*—The whole frame much emaciated; surface bloodless; abdomen flaccid and free from tympanitis. The incision, commencing two inches below the navel, and extending downwards four inches, was united throughout by adhesion. The omentum was found intimately adherent to the abdominal wall, and firmly incorporated with the parietal peritoneum and fascia transversalis, so as apparently to constitute with these structures one membrane, which did not admit of being separated into its constituent parts. In like manner, the transverse colon was firmly adherent to the front wall of the abdomen. In the abdominal cavity were found several pints of fluid, deeply coloured with blood, and some dark clots

of large size. The source of the hemorrhage appeared to have been some vessels of the omentum, which had been divided along with the abdominal wall during the operation, but which did not give any evidence of bleeding at the time. The right ovary and Fallopian tube had been removed, the broad ligament remaining. The ligatures were firmly attached to the pedicle, which had evidently not been the source of the hemorrhage. The pedicle had been tied within half an inch of the womb. The peritoneum was tinged red by contact with the effused blood, but did not exhibit any evidence of inflammatory exudation.

The stomach was large, and united by old adhesions to the diaphragm. The under surface of the liver was covered by a layer of old and organized false membrane, and had become fixed much higher than its natural position, having been pushed upwards by the tumour. Spleen healthy, but adherent to the diaphragm; lungs healthy; heart pale and flabby.

#### (C) CONCERNING THE DISEASES OF CHILDREN.

##### ART. 143.—*A Case of Hydrocephalus in which Paracentesis was performed.* By Dr. BLACKMAN.

(*New York Journal of Medicine*, May, 1854.)

Dr. Blackman accompanies this case with some general remarks upon hydrocephalus, with an elaborate inquiry into the statistics of cranial paracentesis, in which he avails himself very largely of the previous labours of Dr. Charles West (which labours were published in the 'Medical Times and Gazette' for April 1842), and with a copious citation of the opinions of others. The general weight of opinion is certainly against the operation, and the present case only adds to that weight. Dr. Blackman writes :

CASE.—About the first day of May, 1850, a child of Mr. P., of Newburgh, was placed under our care, for the treatment of chronic hydrocephalus. This child was six months of age; its body and extremities were well formed; the circumference of the head was about thirty inches, and, when held between the eye and the light, it was perfectly transparent. The integuments were highly vascular at various points; and at its anterior and posterior portions there were bag-like protuberances, appearing as if about to burst from the pressure of the enormous quantity of fluid within. The health of the child was good, nutrition well performed, and, with the exception of the threatened rupture of the cranial coverings, there were no indications of immediate danger to life. The head began to enlarge very soon after birth, and continued to increase, until, when about four months old, during the night, the cranial cavity became suddenly nearly empty, whilst the integuments covering the entire body were distended as in anasarca. In the course of a few days, the latter completely disappeared, and the head regained its accustomed extraordinary size. In this condition we first saw it, and, as it would have been but folly to have held out an idea of cure, we proposed, by puncture, gradually to diminish the distension of the scalp, and to save the parents from the shock of witnessing the sudden death of their child, by the spontaneous opening

which seemed not far distant. With a narrow bistoury an opening was made through the thin and distended coverings of the cranium, and about six or eight ounces of fluid were allowed to escape before the puncture was closed with collodion. The first tapping was done on the 6th of May, and, as no unpleasant immediate effects followed, another opening was made some two or three days afterwards, and, in the course of ten days, about two quarts had been evacuated. On the 18th of May, after a few hours of suffering, with symptoms of restlessness, vomiting, &c., the child died. After death, the scalp was freely laid open, and the fluid emptied from the cranial cavity, filling an ordinary-sized wash-bowl. There were no traces of cerebral substance to be found, but at the base of the brain the pons varolii and medulla oblongata existed of their natural shape and size.

**ART. 144.—*On the application of Coniin in scrofulous intolerance of light.*** By Dr. MAUTHNER.

(*Journ. für Kinderkr.*, Hf. 1, 2, 1854.)

Dr. Mauthner has found great benefit in cases of this kind, where no inflammatory symptoms are present, from the application twice or thrice daily of this emulsion :

Rx Coniinæ, gr. ss;  
Ol. Amygdalæ dule., 3j.

The application is made by means of a common camel-hair pencil. Dr. Mauthner says, that the most obstinate cases may be cured in this way in a period varying from 8 to 14 days.

**ART. 145.—*On the use of Cubebs in Infantile Enuresis.***  
By Dr. DEITERS.

(*Preus. Verein. Zeit.*, 16, 1853; and *Edinburgh Monthly Journal*, Oct., 1854.)

This author has found cubebs more effectual than any other remedy in curing the incontinence of urine so common among children. This complaint may depend upon atony of the bladder, or on the presence of intestinal worms. In the former case, the cubebs acts as a tonic, in the latter as a valuable anthelmintic. The medicine requires to be given in considerable doses; two pinches (*i. e.* a few grains or *Zwei Messerspitzen voll*) for infants, and half a teaspoonful twice or thrice daily for children of a somewhat more advanced age. Its effect is speedy and permanent; and although occasionally it happens that during its administration the incontinence returns at periodical or irregular intervals, these recurrences gradually become less frequent, and eventually disappear altogether. To effect a radical cure, the author has often found it necessary to continue its use for a period of from three to eight weeks, and he has never observed any injurious effects from its administration.

Deiters observes that he has found the same remedy most efficacious in checking nocturnal emissions in cases of spermatorrhœa.

# REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

*July—December, 1854.*

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

# I.

## REPORT ON PRACTICAL MEDICINE, &c.

1. *The prevalence of Ague during the month of April.* By Dr. BARCLAY. ('Medical Times and Gazette,' July 1, 1854.)
2. *Meteorological Returns during the Cholera Epidemic.*
3. *Notes of a few Cases of Cholera treated during the summer of 1849, showing the comparative curative powers of Quinine in large doses.* By F.W. SARGENT, M.D. ('Philadelphia Medical Examiner,' September 1854.)
4. *Annual Medical Report of Her Majesty's 80th Regiment, while in Rangoon, 1853.* By Mr. TAYLER. ('Indian Annals of Medical Science,' April 1854.)
5. *Letter from Dr. Ayre, of Hull, to the President of the College of Physicians, on the treatment of Cholera by Calomel.* ('Lancet,' May 20, 27, and June 3, 1854.)
6. *On the treatment of Cholera by Castor-Oil.* By Dr. JOHNSON, Assistant-Physician to King's College. ('Medical Times and Gazette,' September 9, 1854.)
7. *Report of the Board of Health on the treatment of Cholera by Castor-Oil.* ('Medical Times and Gazette,' September 23, 1854.)
8. *Notice of the trial of the treatment of Cholera in University College Hospital.* ('Medical Times and Gazette,' September 23, 1854.)
9. *Notice of the trial of Castor-Oil in Cholera, on board the Dreadnought.* ('Medical Times and Gazette,' October 7, 1854.)
10. *Remarks on the mode of treatment of Cholera with frequent doses of Castor-Oil.* By J. A. EASTON, M.D. ('Glasgow Medical Journal,' October, 1854.)
11. *Suggestion for the treatment of Cholera in the state of collapse by the artificial production of peritoneal or cellular dropsy.* By B. W. RICHARDSON, M.D. ('Association Medical Journal,' August 12, 1854.)
12. *On the injection of the Cellular Tissue with water, as tried in 1848, in the treatment of Cholera.* By A. BUCHANAN, M.D. ('Glasgow Medical Journal,' October, 1854.)

IN consequence of the recent epidemic, much attention has been given to the subject of cholera since our last report, but as yet, little of what is really valuable has been brought to light. There is

much reiteration of what is old, and, as it seems, a good deal of empiricism or utopianism in what is really new; but there is no deficiency of material for miscellaneous reflection, as the headings to this article will show.

1. The points to which we would first wish to direct attention appear to have no connexion with each other, or with the cause or nature of cholera; but if they have not (they seem to have) they will serve to introduce the subject. These points are the prevalence of ague and agueish symptoms, and the extreme dryness of the weather before and during the cholera epidemic. Dr. Barclay, writing from St. George's Hospital ('Medical Times and Gazette,' July 1, p. 20), bears witness as to the prevalence of ague during the month of April; we can bear similar testimony in connexion with the Westminster Hospital; and we know of others who can do the same in connexion with other places. On the other hand, Dr. Wilks writing from Guy's Hospital, ('Medical Times and Gazette,' July 15, p. 67), is disposed to doubt the existence of such prevalence. The dryness of the weather before and during the epidemic is an indisputable fact, even without the evidence of the meteorological tables to attest it. Each person, indeed, must have remarked the fact, and each person in all probability must have been struck by the apparent anomaly, that so dire a pestilence should stalk abroad under skies of such unusual brightness, and serenity. It appears also that a similar state of weather has prevailed in former epidemics. Now these two facts—the prevalence of ague and the unusual dryness of the weather—appear to bear very intimately upon the nature and causes of cholera when interpreted by other and more obvious facts. In India, for example, cholera makes its appearance in company with agues, remittents, and dysenteries in the dry season, and disappears in the same order when the rains return. And this is intelligible so far as the agues, remittents and dysenteries are concerned; for all these affections are undoubtedly related to a miasm which is generated in the drying mud. It is intelligible also, so far as cholera is concerned, for not only does this disease show its connexion with this miasm by appearing and disappearing with diseases which are certainly produced by this miasm, but it bears witness to the same fact by interblending in a thousand different ways with these very affections. This is no new opinion. On the contrary, the intimate connexion in nature and cause between cholera and agues, tropical fevers, and dysenteries, is now very generally recognised by the persons best acquainted with tropical diseases. And if so, then the prevalence of ague and the remarkable dryness of the season are very significant facts in connexion with the history of cholera in the English metropolis—the great dryness of the season, as allowing the mud in the drains and on the surface to pass into that perilous dryness which allows the production of the miasm, which according to the degree of intensity will produce agues, remittents, dysenteries, cholera; and the prevalence of ague, as shewing by an unmistakeable test, that this miasm is of the nature which it is supposed to be.

By thus relating cholera to the class of diseases of which ague is a member, we obtain the only clear insight into the means which should

be adopted with a view to its prevention and cure. If unusual dryness of the season (i. e. a tendency to tropical draught) be a cause, it is obvious that we should endeavour to reproduce, as far as possible, the state of things which obtains in rainy weather. Thus: in low districts like Westminster, Lambeth, and Southwark, where the water supply is scanty at best, and altogether wanting in some parts, it becomes a question whether the tide ought to be excluded altogether from the drains in seasons of drought, and whether the best means of preventing and suspending a visitation of cholera, would not be to open, occasionally and partially, the *pen-stocks* and *tide-flaps* at the mouths of the great drains. A plan of this kind was adopted, if we remember right, some years ago, under similar circumstances, in a town bordering upon the Ouse, in the East Riding of Yorkshire, and with immediate and permanent benefit. In other cases, the requisite supply of water must be obtained from other sources. In every case, the object must be to take care that as much water enters the drains, or lodges upon the surface, as enters or lodges in comparatively wet weather. Again, if cholera depends upon the miasm which produces ague and tropical fever, it is obvious that quinine or arsenic will be effectual prophylactics—quinine especially. There is no doubt that either remedy is prophylactic of ague; and there is every reason to believe that quinine is prophylactic of tropical fever. At any rate so strong is the evidence as to this latter point that it is now ordered by the naval authorities that quinine shall be served out habitually to officers and men when engaged on the west coast of Africa, or on other malarious localities. (See a paper by Dr. Bryan, R.N., in 'Abstract,' Vol. XIX, p. 1). Either of these facts is sufficient to lead us to expect that quinine and medicines of the same class will be prophylactic of cholera, if cholera is so intimately allied to ague and tropical fever as it appears to be; but both facts together may be said to constitute a proof, which is well nigh conclusive, that they would be so prophylactic.

More than this, these considerations afford no inconsiderable light as to the principles which should guide us in the treatment of cholera, for they bring the experience of tropical fever to bear directly upon the subject. Now there is no doubt that quinine will cure tropical fever, if given largely and at once. There is no doubt, also, that tropical fever subsides under the influence of calomel, the moment this mineral begins to act upon the gums, but not till then. All this is clearly set forth in the admirable paper by Mr. Hare, on tropical fever and dysentery, the notice of which is to be found in the present report. And if so, and if cholera be a kindred disease, why should not quinine or calomel be equally effectual? And this leads us to notice, in the second place, the results which have recently followed the employment of those remedies in cholera.

2. Quinine has not yet been extensively tried. In the annual report of Her Majesty's 80th regiment ('Indian Annals,' p. 423), Mr. Taylor writes:

"At Rangoon the treatment of the disease was by large and repeated doses of quinine, but not with any very encouraging success. The fact is, that whilst vomiting is urgent, the quinine is only wasted;

small doses of quinine and opium in the form of pill, washed down with soda water or an effervescing draught, certainly appeared a more advantageous method of treatment. Free counter-irritation to the abdomen principally by means of a large mustard poultice, was invariably practised, and in the premonitory and developed stage of the disease, I know no other more essential means of benefit. Chloroform in doses of 20 to 40 minims, has appeared to relieve the spasms, but was as impotent as all other medicines in staying the progress of the disease when in an advanced stage."

Dr. Sargent furnishes the notes of a few cases of cholera treated in the summer of 1849, to show the efficacy of sulphate of quinine in large doses ('Philadelphia Examiner,' Sept., p. 539). He appears to have treated 37 cases of cholera in the stage of collapse, and with the following result. Seven were treated by calomel in combination with sugar of lead, opium, &c., and only 1 recovered; 4 were treated by small doses of calomel, and none recovered; 4 by chloroform, with camphor or oil of turpentine, and none recovered; 3 by small doses of quinine and sulphate of iron, and none recovered; 2 by bleeding, and both recovered; and 17 by large doses of quinine, and 13 recovered. The following cases in which the treatment was successful are related in illustration. Dr. Sargent writes:

**CASE 10.**—An Irishman, æt. 46, a laborer by occupation, intemperate, was admitted at  $9\frac{1}{2}$ . a.m., July 13th. During the preceding night, he had had slight pain in his bowels, and four large watery evacuations; having been previously, as he assured us, perfectly well; went to work as usual at 6 o'clock this morning, but was soon seized with violent cramps, frequent purging and vomiting, and was sent to the hospital.

*Present condition,  $9\frac{1}{2}$ . a.m.*—Face pinched, eyes sunken, lips blue, temperature of tongue lower than natural; neck, chest, and extremities cold; fingers shrivelled as if they had been macerating in warm water, nails purple; pulse just perceptible at the wrist; heart beating feebly and irregularly; respiration not much disturbed; violent cramp in left leg below the knee; very urgent for cold water.

10 o'clock.—He was put to bed, frictions of mustard and cayenne-pepper were made to his limbs, and bags of hot oats were placed about his body; he was allowed ice freely;  $\frac{3}{4}$  of beef broth was administered every half hour, and grs. xvij of quinine, with gtt. xxx of laudanum, and gtt. xx of elixir of vitriol were given in a wineglassful of water.

11 o'clock.—Has had no cramp during the last half hour, and no evacuation from the stomach or bowels, since he took the quinine; skin warm, pulse becoming fuller and stronger, action of the heart perfectly regular; not at all restless; thirst very much abated; no headache, or noise in the ears, or disturbance of vision. Ordered grs. v quinine in acidulated water, without laudanum.

1 o'clock, p.m.—Has just passed  $\frac{3}{4}$  dark coloured, turbid urine, coagulable by heat; condition very favorable.

3 o'clock, p.m.—Has been sleeping quietly, rather more than an hour; skin moist and warm; pulse 90. When he awoke, he asked for something to eat, and took  $\frac{3}{4}$  of beef-broth; still thirsty, and is allowed to take cold water pretty freely.

7 o'clock, p.m.—Has slept the greater part of the afternoon; on awaking

just now, passed nearly half a pint of urine, lighter in colour than the last, and very slightly coagulable by heat.

July 14th, 8, a.m.—Had a very comfortable night, feels perfectly well, “barrin’ the wakeness,” had a large, dark-coloured, semi-solid evacuation from the bowels, accompanied with much wind, but no pain; his whole condition and aspect very much changed for the better; has a good appetite, which he is permitted to indulge on tea and bread and butter for breakfast and supper, and soup with rice for dinner.

Directed to take gr. j each of quinine and sulphate of iron, four times daily.

Was discharged well on the 16th of July, having had no relapse or other unpleasant symptom.

The following patient was seen by Dr. Carson and several other gentlemen, who happened to be in the ward at the time of his admission.

**CASE 11.**—The cook and steward of a West Indian vessel, was admitted at 1½ p.m., July 17th. His habits are good, and his health always robust. He left Baltimore in the cars at 9, a.m., in excellent health, having had a natural stool at his usual time in the morning; towards the close of the ride from Baltimore to Havre-de-Grace, he became languid, drowsy, and chilly; on getting into the boat at the latter place, he drank two large glasses of iced water in succession, and very soon experienced a sensation of pain and great oppression at the pit of the stomach; cramps and vomiting soon commenced, accompanied later by purging; he was placed in a carriage immediately on his arrival at the dépôt in this city, and was brought to the hospital; he had a copious evacuation of a watery fluid from his stomach and bowels, during the ride of half a mile.

*Present condition, 2½ o'clock, p.m.*—Surface generally cool; tongue clean, moist and cold, but not extremely so; skin wet with perspiration; pulse very feeble; fingers puckered like those of a washer-woman; voice feeble and husky; extreme thirst; restless to a great degree; respiration sighing; complains of feeling extremely hot, and oppressed in breathing.

*Ordered,* grs. x quinine, and gtts. x laudanum, in ʒss brandy; hot oats, in bags, were applied about his body and against his feet.

In the course of half an hour, his skin had become pleasantly warm, his restlessness and thirst had abated, his respiration had become regular without sighing, and his pulse was of a very encouraging force and volume; no vomiting, purging, nor cramp, after the first fifteen minutes from his admission; (just after his entrance, he ejected an abundance of the “rice-water” matter from his stomach and bowels, but there was no repetition of the discharges after he took the quinine.)

3½, p.m.—The quinine, brandy, and laudanum has just been repeated in the same proportions, there seeming to be a disposition to flag again; reaction followed as at first, and continued until about 5½ p.m., when it was thought advisable to administer a third dose, inasmuch as the patient seemed a little restless, and his pulse not quite so strong as before. After this his condition improved, and he went on steadily gaining. In the early part of the evening, he passed ʒiv of dark reddish-brown urine. During the following days, he took sulphate of quinine and sulphate of iron, gr. j of each, four times daily, until the 21st of July, when he was discharged cured.

**CASE 12.**—James Owens, æt. 49, pretty well known as superintendent of the “State House,” was admitted July 26th, at 9½ a.m. He had diarrhoea for a week; but on the night of the 25th, was seized with cramp in the abdomen, hands, and feet, accompanied with vomiting and increased purgation.

*Present condition.*—Countenance sunken; eyes hollow; nose pinched and

blue; lips purplish; tongue cool; skin of the hands shrivelled, moist, and cold; nails blue; pulse very small, and very weak and irregular; action of heart feeble, and somewhat irregular, sounds distinct; muscles flabby and doughy; extremities cold, neck and face cold, trunk warm. While he was being undressed, he vomited about 3*iv* of a thin, bluish fluid, containing numerous flocculi of whitish matter in small fragments.

He was put to bed, hot oats in bags placed about him, and grs. xviii of sulphate of quinine, with gtts. x of laudanum in  $\frac{3}{5}$ ss of brandy were administered; a piece of flannel wet with spirits of turpentine was laid upon the epigastrium; ice was freely allowed.

In the course of twenty minutes his pulse had become much fuller and perfectly regular; his lips grew slightly ruddy. At the end of an hour, the quinine, laudanum, and brandy were repeated, reaction seeming to be at a stand-still. An hour and a half subsequently, (at about 12 o'clock,) a perfect reaction was produced, and he continued to recover. After the first dose of quinine, he had no return of vomiting or purging, and but one attack of cramp in one of his legs. At  $7\frac{1}{2}$  o'clock, he passed 3vij of darkish, muddy-looking urine; at 9 o'clock he fell into a sound healthful sleep.

During the two or three days following, he took gr. j each of sulph. quinine and sulph. iron, four times daily.

There are no new facts to record respecting the treatment of cholera by calomel. Dr. Ayre writes to the 'Lancet' to urge the advantages of repeated small doses of calomel, and to complain that this plan has been unfairly dealt with in the recent 'Report of the College of Physicians on Cholera,' and apparently with reason. Dr. Ayre does not furnish us with any new particulars—indeed he writes before the outburst of the present epidemic, but he refers to what happened in 1832, and says enough to show that this treatment was very successful.

"I procured," he says, "a copy of the register kept in this town in 1832 by the cholera inspector, and which contains, in a tabular form, the name, age, residence, and date of attack, of every patient, with the name of the medical attendant respectively, and the result of his treatment. From this table, now before me, I have extracted the entire number of patients attended by nine of the medical men of this town, with the results of their treatment. Three of these employed calomel in small doses, whilst the others followed various modes of treatment. I here give the following extract from the register of the cholera inspector of 1832 at Hull :

Cases treated by six medical attendants, 234; recovered, 96.  
" three, with calomel, 345; recovered, 267.

"The patients whom I attended amounted to 218, of whom 43 died, though some of those had already expired when I took down their names to attend them, and several of the others were negligently nursed, or were subjected to other unfavorable influence. Not more than six of the whole number who recovered had either consecutive fever or soreness of the gums. Three or four days was the general term of the duration of the disease; and as children recovered more readily than adults, no age precluded recovery if exempt from other diseases. One of my patients was 92, and survived a most severe attack with almost uninterrupted health to the age of 103."

We will not venture an opinion of this treatment, except to say, that arguing from the history of tropical fever, we should fully expect an improvement in the symptoms of cholera as soon as the symptoms of ptyalism made their appearance. From this history, indeed, it would appear as if the medicine was altogether inoperative up to this point, but it *may* be different in cholera. Be it as it may, however, we confess our own predilections for quinine, and, if nothing occurs to shake these predilections, we shall proceed to treat cholera the next time we have charge of cholera-wards, as if cholera were tropical fever, i. e. by full doses of quinine.

Nor is this conclusion at all shaken by the promises or results of the two new modes of treatment which have yet to be noticed—the treatment by castor-oil, and that by injections into the peritoneum and cellular system generally.

3. The treatment by castor-oil is that which has made most sensation during this past epidemic. It was taken up by the 'Times,' and hence the reason, but apart from the publicity thus gained, it has little to recommend it to notice. We leave, however, the facts to speak for themselves. Dr. Johnson writes :

" All the cases of cholera which have come under my care in the hospital have been treated by castor oil, administered in a mode which I shall presently explain. We have called no case 'cholera' which has not presented well-marked symptoms of collapse. Fifteen of these cases, most of them in the very extremity of collapse,\* have been under treatment, and the result has been 12 recoveries and 3 deaths. One of the fatal cases was a child, six years of age, who died half-an-hour after admission, in consequence, as I believe, of a large dose of brandy which had been previously administered by his mother. In a second fatal case, the oil had been given for some hours, and the patient was rallying, when the oil was discontinued in consequence of the intestinal discharges appearing to be tinged with blood. I was absent when this case occurred, and although I impute no blame, yet I think that with the discontinuance of the oil the patient's chance of recovery was taken away. In the third fatal case, a night nurse disregarded her instructions, and we have good reason for the belief that during several hours the patient had very little, if any, of the medicine. Admitting, however, that the fatal result in these three cases was inevitable, the proportion of recoveries yet remains four fifths of the whole. The number of cases is small, but my hopes from this plan of treatment do not rest merely upon my own individual experience. I have carefully studied the results of the various modes of treating cholera which have been advocated and practised by different members of our profession, and I have arrived at the conclusion, that those methods of treatment which have been attended with the largest amount of success have been essentially eliminative in their tendency. I allude especially to the saline treatment of Dr. Stevens, the treatment by small and repeated doses of calomel as practised by Dr. Ayre, and the emetic plan of treatment. While, on the other hand, the largest amount of mortality has occurred in the practice of those who have given freely either opium or alcoholic stimulants,—a practice

\* Four of these cases are still in the hospital, but quite convalescent.

long since characterised by Dr. Stevens as that of adding one poison to another. For what reasonable explanation can we suggest for the phenomena of cholera except this,—that some mysterious poison enters the blood, which, while it exerts a powerful depressing and narcotic influence on the entire nervous system, in most cases excites a copious secretion into the stomach and intestines, whereby the poison is separated from the blood, and thus ejected from the body? And if this be the rational pathology of cholera, what treatment is so likely to be injurious as that which attempts, by narcotics and astringents, to arrest the discharges? What procedure so full of promise as that which has for its object to favour and assist the elimination of the poison?

“I have not time to detail the numerous facts and arguments which favour that view of the pathology and the treatment of cholera which I advocate. I may, however, remark in passing, that there is no relation between the degree of collapse and the amount of fluid which is lost by purging; that in many cases there is rather an inverse ratio between the collapse and the diarrhoea, and that the former often decreases and disappears while the latter continues with unabated rapidity.

“Assuming, therefore, that it is desirable to encourage rather than to suppress the diarrhoea, the agent best adapted to accomplish this result appears to be castor oil—the mildest, least irritating, and yet withal the quickest purgative which we possess. Our plan has been to give the oil in doses of half an ounce every half hour, and to continue these doses until the bowels are very freely acted on, when we give it at longer intervals, and discontinue it altogether as soon as reaction is fairly established. It is usually given in cold water. A patient with a cold tongue has not a very delicate sense of taste, and we have had no difficulty in administering the medicine. It sometimes excites vomiting, and we have had such decided evidence that the effort of vomiting is beneficial, that we are rather gratified than otherwise with this result. In every case we give cold water *ad libitum*. We put mustard poultices over the stomach, to relieve the pain which is usually complained of in that situation; we apply dry heat to the cold extremities, and friction to the cramped muscles; we most carefully avoid opium and brandy until the period of collapse is safely passed; and we have not as yet had one case of secondary fever. It may be well to observe, that the success of the plan depends upon a steady, persevering, watchful attention to every case, at every period of its progress. Let no one imagine that he has done all that is required, when he has ordered a nurse to give half an ounce of castor oil at certain intervals. He must be quite sure that his directions are fully carried out.

“I must not omit to mention that one or two of our patients have been rescued from an almost fatal lethargy by an emetic of mustard and salt; and that in one case the addition of two drachms of oil of turpentine to one dose of castor oil appeared to act as a wholesome stimulant during the stage of icy coldness. As to the quantity of castor oil which may be given with impunity, I may state that more than one patient has had as much as a pint in the course of forty-eight

hours, and that in several cases in which, with extreme collapse, there has been a torpid condition of the bowels, we have given the oil in doses of a full ounce.

“ And now a few words as to the treatment of epidemic diarrhoea, characterised by vomiting, purging, and cramp. There appears little reason to doubt that the unaided efforts of nature will suffice for the cure of by far the greater number of these cases, and that it is a matter of comparative indifference whether the patient is dosed with sulphuric acid or with carbonate of soda, except that the sulphuric acid in large doses must irritate the mucous membrane, and thus act as an aperient. I am persuaded, however, that the plan of attempting to check these excretory efforts by opium and astringents is as hazardous as it is unreasonable; and I trust that the time is not far distant when the profession will be unanimous as to this important point of practice. We have recently, at the hospital, cured hundreds of these cases by one or two doses of castor oil. Several of our nurses, and one pupil in attendance on the cholera patients, have been seized with severe premonitory symptoms of cholera. They have all been quickly cured by castor oil, and not one has passed into the stage of collapse. On the other hand I have known, in the year 1849, an attack of vomiting and purging quickly converted into one of fatal collapse by one or two small doses of opium; and some of the worst cases of cholera that we have recently had under our care have been those in which, previous to their admission, medicines had been given for the purpose of checking the diarrhoea.”

Dr. Johnson’s statements being of this character, and attention having been called to them in so public an organ as the ‘Times,’ they were put to the test in several quarters, and the answers supplied, require no comment on our part.

The Medical Council, of the General Board of Health, appointed a Committee consisting of Dr. Paris, Dr. Babington, Dr. Tweedie, Dr. Baly, and Mr. Ward, to inquire into the matter, and the following is the Report which was received and approved by the Council:

“ The Committee, having read Dr. George Johnson’s letter to the President of the Board of Health, together with its enclosures, found, on an examination of Dr. Johnson’s cases, that 11 of them were cases of cholera in a state of collapse, of which 6 were fatal.

“ Five other cases of cholera did not pass into a state of complete collapse; these terminated in recovery.

“ Three cases of choleraic diarrhoea also recovered.”

\* \* \* \* \*

Of the whole number of cases treated with castor oil, the following table shows the result:—

Abstract of the Cases.	Cases.	Fatal.	Recovered.	Still under Treatment.	Remarks.
Mr. —, of — Hospital . .	2	2			
Mr. —, of — Hospital . .	3	3			
Mr. —, of — Hospital . .	6	6			
Mr. —, of — Hospital . .	1	1			
Mr. —, of — Hospital . .	4	4			
Mr. —, of — Hospital . .	5	5			
Dr. —, of —	2	2			
Dr. —, of —	7	6	1	—	Amendment before taking the oil.
Dr. —, of —	6	4	2	—	Both mild.
Dr. —, of —	8	6	—	2	{ One in hopeless state, one in consecutive fever.
Mr. —, of —	7	5	1	1	{ One in consecutive fever.
Dr. —, of —	16	10	4	2	{ One had relapse, one still under treatment.
Mr. —, of —	7	6	1	—	{ In an incipient state before the oil was taken.
Mr. —, of —	15	8	6	1	
Total . .	89	68	15	6	

“ Cases treated at —— Hospital with castor-oil and tincture of capsicum. . . . . 11 9 1 1

“ From the above abstract, the details of which have been carefully investigated by the committee, it appears, that, in 89 cases of cholera, treated by fourteen different practitioners with castor oil, on the plan recommended by Dr. Johnson, 68 were fatal, recovery having occurred only in the 15 cases, while the 6 remaining cases are still under treatment.

“ The above report having been laid before the council, and approved by them, it was resolved that the same be communicated to the President of the General Board of Health.

(Signed)

“ JOHN AYRTON PARIS, Chairman.  
B. G. BABINGTON,  
A. TWEEDIE,  
WILLIAM BAILY,  
W. B. WARD.

“ WHITEHALL, Sept. 20.”

In University College Hospital the treatment by castor oil was carried into effect by Dr. Parkes and Dr. Hare, and Mr. Hillier, the resident medical officer, communicates the results of the trial in the following statement :

"Six cases have been admitted into the hospital since attention was called to the treatment by castor oil, and of these five have been at once put upon that treatment, as prescribed by Dr. Johnson, with the addition of the subsidiary measures recommended by him, such as heat to the extremities, etc. The first three cases died, although the utmost care was taken that the remedy should be administered with regularity ; they got gradually worse from the time of their admission. Two other cases, admitted yesterday, are still under treatment, and it is very doubtful whether either of them will recover. One case, treated with castor oil, has recovered, but in this one the patient had rallied, and there was very decided improvement, while the patient was under a different line of treatment, before the castor oil was commenced. In a seventh case, admitted on the 1st inst., castor-oil was given, in ounce doses, every hour ; but this also proved fatal. These cases have not been selected on account of their severity, but have been taken in succession as they have been admitted ; three of the cases, indeed, presented a very favorable aspect on admission."

The same treatment was also put in practice on board the Dreadnought Hospital Ship, and with no more satisfactory results, if we are to judge from the report by Mr. Compton, the resident medical officer. The cases were not selected, and they were taken for several days together. Mr. Camplin writes :

"Immediately on admission, each patient had a salt-and-water emetic administered, in order to clear the stomach of any medicines or other liquid they might previously have taken. After copious vomiting had taken place, the castor-oil was begun. The medicine was given regularly, under my own superintendence, and I can conscientiously assert, that in no case was there any neglect or mismanagement on the part of the nurses. Constant friction to the extremities, by means of flesh-brushes or coarse towels, was also employed, and an abundant supply of iced water was given to all of them."

Then follows a table, from which it appears that out of the 19 cases, 12 terminated fatally, and 7 recovered.

Of the 12 fatal cases, 8 died during the stage of collapse, and 4 during the consecutive fever. One case was, at the commencement, but slightly collapsed, but afterwards became an extremely bad case of consecutive fever.

Of the 7 that recovered, in 1 the reaction was so great as to require a full bleeding ; 3 had the consecutive fever slightly ; and 3 recovered without any febrile symptoms at all.

In 4 cases calomel was given after the oil appeared to have produced no beneficial effect, and the patients were getting worse.

Of the 4 thus treated, 2 recovered, and 4 died ; the two that recovered had consecutive fever slightly ; the 3d died of consecutive fever ; and the 4th died during the stage of collapse.

Judging from the result, Mr. Compton thinks we are not justified in giving any credit to castor oil in Asiatic cholera.

Dr. Easton, one of the physicians to the Cholera Hospital in Glasgow, writes to the same effect. He tried the castor-oil in 9 cases, and abandoned the practice in consequence of 7 out of this number having died. He writes :

" To have continued the treatment after such results, would have been neither more nor less, in my opinion, than to have incurred the guilt, and to have become amenable to the penalties, of culpable homicide. Indeed, it may appear to some that such a charge has already been substantiated, and such penalties already incurred ; but, in answer to those who think so, I remark that, in consequence of the great mortality of cholera, no matter what the treatment pursued, we were perfectly justified in having recourse to a new mode, in whose praise the note of preparation had been sounded so loudly, and the superiority of which appeared to have been as signal as it was gratifying. The nine cases already referred to included persons of both sexes, of all ages, and in various stages of the disease. The medicine was faithfully administered every half hour, in doses of half an ounce, under the eye of my intelligent assistant, Mr. Marshall, who resides in the hospital, and who, like myself, was most anxious that the treatment should have a fair trial, and that the result should be successful. In four of the cases collapse had been established before admission into hospital ; in the other five it had not been developed. One of the two recoveries took place in one of the four cases of collapse—the other three of these died ; and, of the five cases in which there was no collapse on admission, one recovered, and the remaining four passed into collapse, from which they never rallied. No opium, so far as we could learn, had been given in any case previous to admission, and certainly none was given after it ; but in one of the cases which recovered, and in one of those that died, about two gills of brandy had been swallowed in the patients' own houses. One of the patients died of the consecutive fever, after having taken 54 oz. of oil ; and I may here remark, that the average quantity of oil given to each patient was about 22 ounces. In all the cases the medicine increased the sickness, and in most of them a large portion of it passed through the bowels unchanged. In none of the cases that died did it alter the character of the dejections, though in the two patients who recovered, the bilious diarrhoea—which is observed in every case of recovery, however treated—appeared as usual."

4. On the supposition that the collapse of cholera is due to the loss of fluid which has been occasioned by the vomiting and purging—a position which is by no means tenable—Dr. B. W. Richardson argues that good might follow the injection of water into the peritoneum or cellular tissue *in extreme cases*. The idea is not without ingenuity. Dr. Richardson writes :

" The most important step that has as yet been made on the human subject towards supplying the exhausted system with fluids in cholera, is that of throwing a considerable quantity of fluid directly into the circulation through the veins ; and it cannot be denied that, in practice, this plan has been attended with some amount of success. In con-

templating the subject of transfusing watery matter into the system, the question occurred to me, whether any other means existed of introducing fluid matters into animal bodies in very large quantities, and in a manner which should secure their absorption. This thought led me to look back upon the pathological characters and treatment of those diseases in which serum is largely thrown out into serous cavities or cellular tissue. I recollect that, in cases of this class (dropsical cases), not only were several gallons of fluid often thrown out of the circulation into the system without immediate danger, but that patients thus situated could tolerate a degree of purgation which would absolutely destroy healthy individuals. This immunity must arise solely from the fact, that the effused serum lies as a reservoir, from which the circulation is fed while the purging is going on. The idea furnished an important suggestion; and I consequently commenced a series of experiments on animals, which, as they are as yet in an imperfect state, I shall only describe in general terms, reserving the particulars for my next report.

“The experiments up to this time have mainly consisted in exhausting dogs and cats by starvation and violent purgation, with large doses of elaterium, and afterwards injecting either their peritoneal cavities or their cellular tissue with large quantities of distilled water at the blood temperature. The results, in general terms, are as follow :

“I find that either into the peritoneal cavity, or into the cellular tissue, a quantity of water, varying from a tenth to a fifth part of the weight of the animal, may be injected with little risk. The effect of this is to induce a sleepy condition, which lasts from twenty to thirty hours, long before which time all trace of the injection is lost. If more than this is thrown in, the sleep, or rather torpor (for the animal only remains quiet, and rouses when spoken to), ends in death. This was the case in one dog weighing ten pounds, into whose cellular tissue I injected three pounds of water. In animals that have been much exhausted, more fluid may be injected, and the absorption is greatly quickened. In animals which have died from the experiment, and have been examined immediately after death, I have never found any trace of the injected liquid; but the blood has always been exceedingly fluid, and has coagulated slowly, if at all. I should notice also, that in two cases, in which a cat and a dog were operated on while under the influence of an anæsthetic agent, they died; the one in four, and the other in forty-eight hours, without ever rallying fairly from the effects of the narcotic. I should mention, too, that I have met with one or two casualties in the course of these experiments, which have arisen purely from their novelty, and cannot be considered as bearing on the merits of the system. Thus, in two young cats of the same age, I injected a sixth part of their respective weights of water into the cellular tissue of one, and into the peritoneum of the other; the result was, that the one whose peritoneum was injected, after remaining apparently well until three or four hours previous to death, died about twenty-four hours after the operation. On opening the body, all trace of fluid was absent; but I found that, from having made too large an incision into the peritoneum, and from the animal having reclined on the belly, about two inches of intestines had slipped into the opening,

and had become strangulated and deeply congested. In another instance, where I inserted pins into two openings, erysipelatous inflammation came on in the surrounding skin; but not in another part of the body, where the wound was left untouched. In a third casualty which occurred to me, I learned a very useful lesson. Into the peritoneum of a dog three pounds of water were thrown, and one pound into the cellular tissue of the thigh. The animal seemed pretty well for a short time after the operation, and the fluid was absorbed in the course of three or four hours, although it constituted a fifth part of the weight of the whole body. In a little time, the creature gradually became exhausted, and died in eleven hours. On opening the body, I found that all the fluid injected had disappeared; but in the peritoneum there lay about a pound of semi-coagulated blood, which had escaped from an artery that had been wounded by the trocar. The blood in the veins and heart of this dog was like water itself, and showed no tendency to coagulate. The heart was flaccid and collapsed. In this case, the rapid absorption of the injected fluid arose doubtless from the hemorrhage, and from the too rapid and copious flow of fluid into the exhausted circulation. For, while the blood lost its solid constituents on the one hand, it gained too large an amount of water on the other. This animal had been reduced somewhat by purgation. Previous to the operation, he weighed twenty-six pounds; immediately after it, thirty pounds; and, at his death, a little more than twenty-four pounds. He must consequently have made use of all the injected fluid, and have lost somewhat more than one pound additionally, during the interval between the operation and death. Setting aside, therefore, these casualties, I infer from my experiments as they now stand, that into the peritoneum or the cellular tissue of a patient in a proper state of collapse from cholera, water to the extent of at least a tenth, or even a fifth, part of the whole weight of the body might be injected with safety, and that the absorption would be almost immediate.

"I am not at this moment able to say which of the two kinds of operation is best, but I am strongly inclined in favour of injecting the peritoneum; for, although the absorption of fluid from the cellular structure seems most rapid, the difficulty of introducing water in full quantities into the peritoneal cavity is much less, and the pain attendant is considerably milder. In either case, too much care could not be taken to throw the fluid in slowly, to have it at a temperature not less than 92° Fahrenheit, and, if the peritoneum is the part injected, to be mindful not to distend the cavity to the extent of interfering with the action of the diaphragm.

"As yet I have had no favorable opportunity of trying the suggestion I have here thrown out in cholera; but that it might be put into application in desperate cases, and might prove advantageous, I have no doubts whatever. The advantages of it would be:

"*First.* That an abundant store of fluid would be supplied, which the exhausted circulating system would rapidly and effectually take up.

"*Second.* That as this imbibition would take place through the capillary system, the fluid would enter the veins freely charged with the solid constituents of the blood, and would pass to the lungs in a condition suitable for respiration.

"Third. That the process would in no way interfere with the administration by the mouth of astringent solutions, or such other medicines or liquids as the practitioner might consider indicated.

"But although I am thus sanguine on this subject, I wish it to be understood that the first trial of this process should commence in a case where the patient is in the last stage of collapse, where other remedies have failed, and where death is imminent. This, it is true, would scarcely be putting the new remedial measure to a fair test; but my ideas of the value of life are so great, that I would not, even in so important a disease as cholera, recommend the employment of a new remedy wantonly, or without that due care for the welfare of the sick man which every honest practitioner of medicine intuitively feels."

Injection of water into the cellular tissue was tried in 1848, by Dr Buchanan, of Glasgow, and this gentleman states the result of his experience as an answer to Dr. Richardson's proposal. Speaking of this practice, he says:

"I found it to be altogether impracticable. I succeeded, indeed, in injecting water under the skin; but, in every instance, I found that I had injected it, not into the cells of the cellular membrane, but into a cavity formed by disruption; that is, by tearing the cellular tissue, and separating it from the skin and subjacent parts. I tried it, with the same unsuccessful result, both on the limbs and the trunk of the body. I recollect, in particular, of producing on each side, over the ribs, a swelling of the size of a child's head, but flatter. It looked like an abscess, and was probably exactly of the nature of a thrombus, or an ecchymosis, the result of violence. Although compressed by means of a bandage, it did not show any tendency to disappear, either by being absorbed into the blood-vessels, or diffused into the adjacent cellular tissue. I therefore abandoned the attempt, being satisfied, first, that I could not inject water into the cellular tissue so as to produce an equable distension of the cells; and second, that the injection in the way in which I employed it, was of no use as a remedy for cholera."

1. *Tropical Fever and Dysentery; being the result of an Experiment by order of Government in the General Hospital, Calcutta, and in the Garrison Hospital, Fort-William, in the years 1849-50, with a sketch of the theory resulting.* By E. HARE, Surgeon to the 1st Bengal Fusileers. ('Edinburgh Medical and Surgical Journal,' January, 1854.)
2. *Tropical Fever and Dysentery.* By E. HARE. ('Indian Annals of Medical Science,' April 1854.)

The papers which form the subject of this article are virtually a reprint of the official report which was presented by Mr. Hare to the Medical Board of the Indian Government in 1850. The subject, in our opinion, is of great practical importance, and we gladly give it all the prominence in our power.

The main object of the writer is to recommend quinine as a direct antidote in all kinds of tropical fever, and in some kinds of dysentery,

and to urge the necessity of washing out the colon by repeated and copious injections in the latter affection, and in carrying out this object he appeals most ably to the history of past treatment, and to his own experience.

1. *Of tropical fever.*—The history of the changes which have taken place in the treatment of fevers of this kind is full of meaning. Unlimited confidence was placed in *bark*, from 1638, when it was introduced into practice by the Jesuits, until the beginning of the present century; and deservedly so. Given after certain rules, the universal experience was that bark was the antidote of tropical fever, if bark could be given.

Such was the belief and practice until Dr. James Johnson appeared on the scene. This was in 1808. Then surgeon of a ship he treated his first case of tropical fever while at anchor in Diamond Harbour. He put in practice what he conceived to be the treatment by bark, and was disappointed. He neglected, however, to attend to certain precautionary measures which had been pointed out by experience as necessary to success; but he gave himself no time for reflection, and at once started off into a new path. And this path was a natural path under the circumstances. Broussais and Baillie were then in the ascendant, and the fashionable way of accounting for disease was to refer it to some local mischief of an inflammatory character, and, therefore it is no wonder that Dr. Johnson should decide upon salivation by scruple doses of calomel, and upon bleeding, as a proper way of treating the fevers under consideration. It is also the more natural that he should do so seeing that he himself had experienced the benefits of salivation, in a way which will best appear from his own graphic description:—

“ As my night closed in, the exacerbation was great, and I was again delirious; on the third day my fever ran higher, with hot dry skin, and as night approached, my apprehension of the usual exacerbation, brought on extreme mental agitation. The surgeon endeavoured to cheer me, with the hope of ptyalism, which he assured me would alleviate my sufferings [all this time he was taking calomel in scruple doses], as the night advanced my symptoms became aggravated, and I was convinced a fatal termination must ensue; suddenly at 4 o’clock of this same night, salivation appeared, succeeded with such agreeable sensations, that I ejaculated aloud my heartfelt gratitude to Heaven for my deliverance.”

The end of the whole matter was that Dr. Johnson bled and salivated his next patient, and applied all his talents to induce others to do the same. In this he succeeded, and before long his treatment had become as general as that by bark had been previously. Like the treatment by bark, also, the treatment was successful. Even Mr. Hare says:

“ And the result I know from my own experience must have been successful, quite as much so perhaps, as the treatment by bark in its crude state. There cannot be a doubt, that if not calomel, yet certainly salivation, *is* an antidote to malarious fever. The instant a patient’s mouth is sore, the fever leaves him; the mercury produces not the slightest effect till then, but from that moment the disease vanishes as

if charmed ; the change is from death to life, from extremity of suffering to calm and comfort."

Like the treatment by bark, however, the treatment by salivation had its disadvantages. The consequences of a single salivation were often serious, and those of repeated salivations were always disastrous. Indeed, there is much reason to believe that the shattered appearance which was so characteristic of the returned East Indian, some time ago, was mainly owing to this cause.

The evil consequences of ptyalism in time lead to another change in treatment, and, by degrees it began to be the rule, either to give mercury in smaller quantities and simply as an antiphlogistic, or else to trust to a mere expectant treatment. By degrees, also, the old predilection in favour of bark began to revive, and quinine began to be given with more or less boldness as soon as the fears of inflammation would permit. And this is the mode of treatment which at present prevails. This mode of treatment, however, is by no means so successful as that by bark or by ptyalism, and Mr. Hare's paper furnishes curious proof of this fact, in connexion with the kindred affection—dysentery. He says :

" I noticed that dysentery had been treated in the earlier days of the General Hospital, by scruple doses of calomel and mercurial frictions, whereas latterly, since 1846 onwards, calomel had been avoided as a poison, and sugar of lead and opium given, and on examining the Returns it appeared, that the mortality of the first four years, 1830 to 1833, had been only 1 death in 6, whereas in the last four years, 1846 to 1849, it had been 1 death in 3. Dr. Martin's tables also show, that for 12 years from 1826, at the General Hospital, the ratio of mortality for dysentery, was only 1 death in 6.

" About the year 1833 to 1834, Dr. Twining's treatment by blue pills and ipecacuanha was introduced, and mercury in this milder form was given freely, almost without a change in the practice till 1846, when sugar of lead replaced it. The mortality during this period continued steadily, 1 death in 4 ; but from 1846 to 1850 it rose immediately to 1 death in 3. The records of the General Hospital afford, without doubt, the most accurate statistics in the world of dysentery. For this disease is the commonest of all there, and the treatment of every case is recorded, so that the effects of remedies upon large numbers, can be most minutely ascertained, from its weekly, monthly, and annual returns, deposited in the office of the Medical Board.

" But to assure myself more thoroughly of this strange fact, I obtained also the returns of the European Regiments in Calcutta, for the same 20 years. Mercury has never been so entirely relinquished by Regimental Surgeons, as in the General Hospital. Blue pill has, however, supplanted the former scruple doses of calomel and inunction, and accordingly the mortality for the first four years 1830 to 1833, was only 1 death in 9, whereas now from 1846 to 1849 it has been 1 death in  $6\frac{1}{2}$ . Also in periods of ten years from 1830 to 1839, it was 1 death in  $11\frac{1}{4}$  only, and from 1840 to 1849, 1 death in 9. All statistics, therefore, of the most infallible kind, show a large increase of mortality by what is called our modern mild system of treating dysentery in Bengal,

and where mercury has been entirely omitted, even a double mortality to what it was when salivation was early, and eagerly sought for."

This being the case, the expectant treatment being ineffectual, and the treatment by ptyalism being attended with such disadvantages—it naturally became a question with Mr. Hare whether it would not be well to return to the heroic treatment by bark, and whether quinine could not be altogether free from the only objection belonging to bark,—namely, that of deranging the stomach, and this the more, seeing that the history and analogies of the disease convinced him that this disease was allied to ague, and not to inflammation. The question was simply one of experience, and the answer was soon obtained. This answer, moreover, was of such a nature, that, after some preliminary difficulties, it was arranged by the Indian Government that the experiment should be tried in the General Hospital, at Calcutta. Of this trial Mr. Hare writes:

"A large ward in the General Hospital was set apart for my patients, and I was placed under the orders of Sir James Thomson, by whom my patients were inspected, and my cases and reports with the medicines I used (checked by Dr. Macpherson), were sent through him monthly, for the information of the Board. Twelve months to comprise all the seasons of the year were fixed as the term of the trial, and my results compared with the average mortality for fever and dysentery at the same Hospital were the 20 previous years. All the fever patients, on admission to the Hospital, were sent to my ward for treatment, which was without exception simply Dr. Lind and Hunter's system, substituting only quinine for bark. I ordered my apothecary to give 3j. of quinine the first moment of admission, before I could be called to see the patient, and one dose of castor oil, or jalap and cream of tartar if the bowels were not loose. If they were, this was omitted. The patients afterwards took 3, 4, or 6 scruples of quinine during the 24 hours. The more severe the fever, the more frequently was the 3j. dose administered, till complete cinchonism was produced, viz., singing in the ears, and deafness. General bleeding and even leeches were rarely required, and only for plethoric sailors just arrived in the country. For these, one bloodletting (it was never repeated) often gave great temporary relief, and I always used it strictly on Dr. Macintosh's principles, just before the accession, to break the first paroxysm, and give time for the quinine to act. Bleeding after the paroxysm, even where the fever is decidedly continued, is often highly dangerous. I believe too that moderate bloodletting assists greatly in procuring the rapid absorption of quinine into the blood. Leeches were very rarely used. Purging I greatly object to, for my experiment on malarious dysentery convinced me, that it prevents absorption of the quinine. The bowels, however, require to be freed from their foul contents, caused by the morbid secretions of the congested liver and intestines, for these, if allowed to remain, cause sickness of stomach, and vomiting of the quinine. I prefer much large enemata to purgatives, in all cases of fever, but my syringes were in such constant employment for my dysentery cases, that I could not conveniently use them for fever also. I would, in fact, treat with perfect confidence, any case of malarious fever, however severe, with quinine and cold water to wash out the bowels, and to

apply to the head, liver, or other congested organ. I by no means, however, deny the extreme relief that a moderate bleeding at the proper time, often gives to a plethoric man. Leeches I have found of less value.

"I treated in this way 129 patients, with one death, the average in the General Hospital for the last 20 years, having been one death in every  $11\frac{1}{4}$  fever cases. I had therefore less than one twelfth part of the average mortality.

"Among the long-neglected cases of debauched sailors from the streets and shipping of Calcutta, who are the majority of the patients of the General Hospital, and are often sent there after they have been lying many days sick on board their ships, or wandering about the bazaars of Calcutta, till they are picked up insensible by the Police, and deposited in the hospital. Among such cases, I had of course most numerous patients, in all stages of delirium and congestion of the brain, and many with coma and black sordes on the teeth and tongue, some also with acute and ardent symptoms, but all had the same unvaried treatment, the only distinction made, being more frequent doses. For in these dangerous cases I always pushed the quinine most freely, yet the result was as above.

"But the Government was not content with this one trial, and I was placed likewise under the orders of the surgeon of Her Majesty's Regiment then in Garrison at Fort William. The dysentery and fever cases of half, viz., five companies of the regiment were sent to me, and the remaining cases from the other five companies to the surgeon.

"The surgeon had the ward in the upper story, I had the lower, a difference which all who have treated malarious diseases in Bengal, know to be very considerably against me. My cases were kept in a book, with the medicine prescribed, and recorded symptoms, open for the inspection of the surgeon, who daily visited and minutely inspected my patients.

"The result for fever was 292 cases, and two deaths. The surgeon had 279 cases and 4 deaths, that is more than double my mortality, though his patients had quinine in the usual doses after a remission had been procured. The saving of life in my ward, was therefore procured by my scruple doses to saturate the system *at once*. The Board also acknowledged in their Report, p. 22, that the average period my patients were under treatment, was much smaller than that shown by all the other Returns received by them from the whole Presidency, during the same period.

"I thus treated 421 cases in all of Bengal fever, and during the experiment some remarkable facts were observed. My orders to my apothecary in both wards were, to give scruple doses of quinine to every patient with symptoms of fever, from the very first moment of admission, and they often thus got 40 grains of quinine before I saw them. During part of the year, viz., March, April and May, small pox and measles raged like an epidemic in Calcutta. Numbers of these patients in their early stages, before the appearance of any eruption, were sent to my ward as fever cases, and were treated as the rest with large doses of quinine, sometimes for 36 hours before I could detect their disease. Almost all these cases terminated fatally. Latterly, however, I was

able to avoid these errors, by watching the effect of the first dose of quinine. For in cases not malarious, it invariably caused great uneasiness, without any benefit to the general symptoms. Moreover, deafness and singing in the ears were very quickly induced, whereas in malarious fever with the same ardent symptoms, the quantity of quinine taken without producing any cinchonism was often extraordinary, and so far from uneasiness, it seemed always to give relief, and the febrile symptoms yielded rapidly under its use. One scruple dose of quinine will cause most evident feelings of cinchonism in a healthy man, and yet a bad fever case will take 4 to 6 scruples daily, for often three days, without any symptom but recovery."

This statement must speak for itself.

2. *Of dysentery.*—In the treatment of dysentery, Mr. Hare trusts to quinine, in conjunction with injections—not one or two small injections in regular routine at distant intervals, but twenty injections daily if they are required, and in sufficient quantity to wash out the colon from end to end. He thus describes his treatment in the General Hospital.

"The moment a patient was admitted, his bowels were thoroughly washed out by a powerful syringe, with a flexible tube passed above the sigmoid curve, when water without limit in quantity was slowly injected by a powerful pump, till the patient complained of the distension, and the abdomen was visibly enlarged. This passed away by stool, completely emptying the bowel, and always gave the greatest relief, putting a stop at once to the straining constantly at stool without passing anything, but a little acrid fluid, or bloody mucus. These painful symptoms were at once removed by the large enema.

"If the patient was plethoric, or had much febrile heat of skin, or pain on pressure to the bowel, he was bled once fully, and took a good dose of opium. The man then soon falls asleep, generally with copious perspiration from the warm water and opium. When he awakes another large injection is given, to wash out any remains of irritating secretions, and leeches, if necessary, with fomentations were applied, freely to any part of the colon which was painful on pressure, and a third injection given before night, with another dose of opium. The patient generally by this time is convalescent, but the injections are carefully continued, whenever the slightest griping or uneasiness recurs, during the next day or two. The same treatment by injections is also equally necessary, when the colon contains not solid, but principally liquid excretions. For these whether bilious, or secretions from the inflamed mucous membrane itself, are always in all forms of dysentery intensely acrid.

"The whole object then of the treatment is, to wash out these carefully, to constantly renew the ablutions and fomentations with warm water enemata, and to calm with opiates or bleeding, the constitutional excitement. To place in short the inflamed bowel in a state of perfect rest, and keep it so, by never allowing its acrid contents, whether fluid or solid, again to remain in it. If, however, there be the constitutional symptoms of malarious fever, and much hemorrhage from the bowel, I then gave, as above, quinine to saturation, and for the present delayed the bleeding as much as possible, by injections of cold water containing

sugar of lead or alum, which at the same time cleanse the colon of all faecal matters, or irritating fluid secretions.

“Now it will appear wonderful that such simple and obvious treatment, should have escaped notice for so common and fatal a disease, during so many centuries, and neither has it failed to be observed by many, I may say all, who have treated dysentery. But till O’Beirne discovered that a flexible tube can be passed into the bowel, without danger or pain beyond the sigmoid flexure, injections however much desired, could not be given in the more severe cases. For the rectum is so sensitive, and so largely supplied with nerves, that when inflamed, it immediately contracts on the injection and expels it, if more than 3 or 4 ounces be attempted; whereas to wash out the colon thoroughly, requires 6 or 7 pints. Bamfield did not use injections, because he says, p. 126, that they were rejected without faeces, immediately they reached the rectum and lower part of the sigmoid flexure. Annesley, p. 279, evidently likes injections, but never used more than 12 ounces, because ‘the slightest distension of the rectum and sigmoid flexure, expelled them again without faeces, only a little fluid matter, but even this (he says) is an object worth attaining, and should not be neglected.’

“By passing an elastic tube beyond the sigmoid, I have found in more than 300 cases of the severest form of dysentery, not the slightest difficulty in washing out the colon, from cæcum to anus. It is in fact the most cleanly, and best way possible for administering an enema. The flexible tube *separately* from the syringe is introduced under the bed-clothes without exposure. At a movement of the hand the assistant brings the syringe fixed on a small stool, places it by the bedside, attaches the flexible tube, and moves the piston up and down with a steady slow motion. I trained my assistants to perform the whole process without a word uttered. The finger was raised and he ceased pumping, it was depressed and he renewed it. A sign was made with the hand, he took away the whole apparatus from the bedside, and the elastic tube was then removed from the bowel. The most delicate lady could not object to such an operation, the relief too is instantaneous, and the bedding is not constantly wetted, as by the common short enema pipe, from the water running backwards from the anus.”

And again, as to the reasons for, and the results of this practice.

“By large injections we may wash out daily, with the most soothing applications, the excoriated intestine, removing its acrid secretions, and the fermenting half-digested faeces, fomenting its tender surface the meanwhile, and softly stretching the strictured parts, with the gentle expansion of water, and when in the colon thus daily cleansed and soothed, the inflammation and irritation have calmed, what numerous applications are there, which can be applied by the elastic tube, to the whole diseased surface of the colon, from the cæcum to the anus, gently to constringe the overstrained vessels, and heal the ulcers! The great value of such medicines as alum, nitrate of silver, sulp. of copper, &c., in ulceration of other mucous membranes is notorious, and there can be no reason assigned, why they should have less effect on the colon. I have already used them largely with perfect safety in the General Hospital, with most decided results, and have collected cases, where the colon showed the scars of extensive ulceration up to the cæcum, and

which were quite healed, by the use of repeated injections of alum, and occasionally nitrate of silver.

“The long tube, in fact, changes an internal disease into an external, and enables us to apply the same treatment, of cleanliness and various lotions to the colon, that we would with certainty of cure to ulcers of the mouth.

“One other great advantage we also obtain by this treatment, that we can support the patient, emaciated by chronic dysentery, with good food, instead of the milk and low diet now given, and thus by strengthening the constitution, greatly assist the healing of the ulceration, for we need not, with injections, fear the accumulation of undigested food in the intestine. Bamfield, p. 234, says:—‘The healing of an ulceration of the intestine is a process of Nature, carried on under such disadvantages, (irritation of faeces and constant purgatives) as will, from every probability, require a long time for its completion, even in the most favorable circumstances. It is indeed observed by Galen, that ulceration of the intestines, more readily admit of cure, than of other internal organs, because medicines injected in the form of enemata, become immediately applied to the affected parts; but it must be *evident* (says Bamfield) that this rule can only apply when the ulcer is within reach.’

“We have now, however, most effectual means of reaching them, and the success of which has been shown in my Calcutta experiments. If however, we can trace fever, scurvy, bad water, &c., as the primary cause of the chronic dysentery, we must apply our remedies to these also, at the same time that we soothe and palliate the local disease.

“I must remark, in conclusion, on malarious dysentery, that if the above treatment by injections be not adopted, statistical facts of the most undoubted kind, prove the necessity of our returning without delay to the salivating system. For the Returns of the largest and longest established Dysenteric Hospital in the world, show that since mercury has been avoided, the mortality has been double for many years’ continuance, what it was when salivation was sought for, as the first and only object of treatment, and to complete the remarkable proof of the importance of mercury, (if my system by quinine and injections be not received,) these statistics clearly show, that as mercury has gradually been disused, so the mortality has correspondingly increased. If statistics then are, as they ought to be, our only guide to rational practice, our path is clear, we must return to salivation till some more successful method be discovered. But the fact, that of treating 346 cases in Calcutta, I had but  $4\frac{3}{4}$  per cent. deaths, will, I hope, induce a trial of large injections by others, and thus prevent the necessity of resorting to the more injurious remedy, mercury.”

In conclusion, we would recommend these views to the attention of our readers, and we especially congratulate the 1st Bengal Fusileers, whose surgeon Mr. Hare is, on having such a man to watch over their health in their present malarious destination—Rangoon.

1. *On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease.* By A. B. GARROD, M.D., Physician to University College Hospital, &c. ('Medico-Chirurgical Transactions,' vol. xxxvii.)
2. *On Gout and Rheumatism, and the Differential Diagnosis, and the Nature of the so-called Rheumatic-Gout.* By A. B. GARROD, M.D. ('Medico-Chirurgical Transactions,' vol. xxxvii.)
3. *Illustrations of Gout and the Gouty Diathesis.* By J. BEGBIE, M.D., F.R.S.E., Physician in Ordinary to the Queen in Scotland. ('Edinburgh Medical and Surgical Journal,' Jan. 1854.)

The two papers of Dr. Garrod, the titles of which are appended, are of very great importance. They are very beautiful instances of clinical investigation; but their real claim to attention is that they afford an answer to a question of great intricacy—the diagnosis of gout and rheumatism. This they do by showing that the presence of an excess of uric acid in the blood is a *pathognomonic sign* of gout. Gout is thus distinguished from rheumatism, and the hybrid affection called *rheumatic gout* is done away with.

In 1848 Dr. Garrod communicated a paper to the Medico-Chirurgical Society, which was published in their 'Transactions,' and in which he endeavoured to establish the following points:

1. The discovery of uric-acid in the blood.
2. Its existence in very minute quantities, (mere traces,) in healthy human blood, and in that of some of the lower animals, as the duck.
3. Its augmentation in the blood in certain pathological conditions of the system.

His mode of demonstrating the presence of uric acid, at this time, was complicated, and not readily, if at all, available for ordinary clinical purposes; and the paper, therefore, met with less attention than it deserved. Shortly afterwards, however, he devised another test, which is equally simple and effectual, to which he gives the name of "Thread-Test." This test is thus performed:

"Take from one to two fluid drachms of the serum of blood, and put it into a flattened glass dish or capsule; those which I prefer are about three inches in diameter, and about one third of an inch deep, which can be readily procured at any glass-house; to this is added the strong acetic acid of the London Pharmacopeia, in the proportion of about six minims to each fluid drachm of the serum; a few bubbles of gas are generally evolved at first; when the fluids are well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres, from a piece of unwashed huckaback or other linen fabric, about one inch in length, which should be depressed by means of a small rod, as a probe or point of a pencil. The glass is then put aside in a moderately warm place, until the serum is quite set and almost dry; the mantelpiece in a room of the ordinary temperature answers very well, the time varying from eighteen to forty-eight hours, depending on the warmth and dryness of the atmosphere.

"Should uric acid be present in the serum in quantities above a certain small amount noticed below, it will crystallize, and during its crys-

tallization will be attracted to the thread, and assume a form not unlike that presented by stone sugar upon a string. To observe this appearance, a linear magnifying power of about fifty to sixty, procured with an inch object-glass and low eye-piece, or a single lens of one sixth of an inch focus, answers perfectly. The uric acid is found in the form of rhombs, the size of the crystals varying with the rapidity with which the drying of the serum has been effected.

“To ensure perfect success, several precautions are necessary.

“1. The glasses should be broad and flat, as above described: watch-glasses of the ordinary kind are not good, being too small, thus allowing the fluid to be frequently spilt; and too much curved, causing the film of partially dried serum to curl up and split.

“2. The acetic acid should be neither very strong nor weak. Glacial acid often forms a gelatinous compound with the albumen of the serum, and the appearance of flakes; and very weak acid adds unnecessarily to the bulk of the fluid. By experience I find the acidum aceticum (*Pharmacopœia Londinensis*) to be well suited for the experiment.

“3. The character of the thread and its quantity is of some moment. Very smooth substances, as hairs or fine wire, but imperfectly attract the crystals; if the number or length of the fibres be too great, and the amount of uric acid small, the crystals become much scattered, and therefore but few appear in the field of the microscope. The glass should not be disturbed during the drying of the serum, or the crystals become detached from the thread.

“4. Some attention to temperature is necessary; if the serum be evaporated at a high temperature, above 75° Fahr. for example, the drying may take place too rapidly to allow crystallization; the temperature of an ordinary sitting-room answers well for the purpose.

“5. If the serum is allowed to dry too much before the examination takes place, the surface becomes covered with a white efflorescence consisting of phosphates, which may obscure the thread; this can be removed by the addition of a few drops of water before putting the glass under the microscope; sometimes over-drying causes the serous film to become cracked or fissured throughout, as well as covered with the phosphatic efflorescence.

“6. It is well, when practicable, to put up two or more glasses with the same serum.

“7. The blood should be recently drawn; that is, no change or decomposition should have been allowed to take place before the experiment is made; the reason for this precaution will be spoken of below.”

This test is very delicate, but not too delicate; for it only reveals that excess of uric acid which constitutes disease. Dr. Garrod determines this point by some very careful and ingenious experiments with urate of soda, the particulars of which are given in his papers.

In the course of the inquiry Dr. Garrod was led to notice the change which uric acid naturally undergoes, and so on to some very important practical deductions, which may best be noticed in this place. He found, indeed, that the uric acid readily disappeared out of the serum, and that he could not detect it, even though before present in large quantities, when the serum began to putrefy—or

rather, when it began to experience those changes which end in putrefaction. On inquiring further into this matter he found that when uric acid is submitted to the action of certain oxidizing agents, as the puce-coloured or per-oxide of lead, it is broken up into oxalic acid, urea, and allantoin, and that when the oxide is further in excess, the oxalic acid is further oxidized and converted into carbonic acid. Dr. Garrod proceeds :

" This fact led me to try whether oxalic acid might not be formed in the blood-serum from a change in the uric acid, and for this purpose I made daily observations on such serum during its decomposition, and found evidence of the formation of oxalic acid in the occurrence of octohedral crystals of oxalate of lime ; after a time these crystals appeared to become less numerous, and at last to vanish. I have also evaporated the serum when decomposition was taking place, and treated the residue in the manner described in my paper on ' The occurrence of Oxalic Acid in the Blood,' published in the 32d volume of the ' Medico-Chirurgical Transactions.' Many crystals of oxalate of lime were thus obtained, for the most part octohedra, some agglomerated into oval bodies, some similar to dumb-bells. To make the experiment more conclusive, I have taken serum of blood not containing an appreciable amount of uric acid, divided into two parts, and to one portion have added urate of soda in small amount, and allowed both quantities to decompose ; it was found that in the portion of serum to which the urate had been added, oxalate of lime octohedra were formed, but not in that portion free from uric acid. The microscopic examinations were made with object-glasses giving a linear magnifying power of from 200 to 400. Much further investigation is required on this subject ; enough, however, has been done to show that the study of these changes is not without interest to the pathologist, for there can be little doubt that oxalic acid is formed in the animal body, not, as formerly supposed, from the oxidation of saccharine matters, but from the decomposition of uric acid. Very many observations on the occurrence of oxalic acid in the blood of man and the lower animals, since the publication of the paper above referred to, have convinced me that such is the case."

This fact furnishes an explanation of the occasional coincidence of the gouty and oxalic diathesis—a coincidence which is stated in a note to the paper by Dr. Begbie, the title of which is prefixed to the article. " It has been remarked," writes Dr. Begbie, " that the gouty parent often transmits the nephritic affection without the gout to his offspring, and that this frequently happens on the *female* side. It has also been remarked that the urinary concretions of the gouty belong to the lithic acid diathesis. It has not been sufficiently, if at all, noticed that they often belong to the oxalic. I have two gouty patients now under my care, who derive their disease from hereditary descent. The eldest son of the one, before his thirtieth year, has had frequent attacks of nephralgia, and lately voided a urinary concretion, which was found to consist of the oxalate of lime. The eldest daughter of the other, while still a girl of twenty, has had frequent attacks of a nephritic kind, accompanied by hematuria ; and in her case the urine is persistently loaded with large crystals of the same earthy matter," (op. cit. p. 3.) The whole subject is one of deep interest,

but we feel satisfied that Dr. Garrod gives the clue to the explanation, and that the oxalic acid diathesis is affiliated to the gouty diathesis, because uric acid is readily transformed into oxalic acid, and that oxalic acid is not formed by the transformation of sugar (a most difficult matter under any circumstances, and impossible under these), as we have been taught to believe. The whole subject is one of great practical importance.

Dr. Garrod, also, determined several other points of interest in connexion with the history of uric acid. Contrary to expectation, he is not able to find it in the perspiration of gouty subjects. He found it in certain morbid effusions, as in the peritoneum and pericardium, and also in blister serum. Curiously, however, he did not find it in the serum of blisters which had been raised on parts actually suffering from gouty-inflammation, and he found a palpable diminution during the presence of other inflammatory action; and from these facts he concludes that inflammation is to some degree destructive of uric acid. He finds, moreover, that the appearance of uric acid obtained from blister-serum is somewhat different from that obtained from blood-serum.

The great practical bearing of this discovery of uric acid, and of the "thread-test," is the diagnosis which it affords between gout and rheumatism. The fact is, that uric-acid is present in gout but not in rheumatism, and when subjected to the test, that rheumatic-gout has no existence. This is the burden of Dr. Garrod's second paper.

This idea was first communicated to the Medical and Chirurgical Society in 1848, and published in their 'Transactions.' Then it was based upon four cases of gout, and four cases of rheumatism; now it rests upon the results of 177 examinations of the blood of 148 separate patients. Dr. Garrod says :

"I have avoided referring here to any case of either gout or rheumatism, when the blood has not been examined, although during the time in which these have been accumulating, very many others have come under my care.

"The plan adopted for tabulating the patients, has been to divide the cases into four different classes.

"1. Articular affections, in which was demonstrated the *presence* of an abnormal amount of uric acid in the blood.

"2. Articular affections, in which the *absence* of uric acid in the blood was shown.

"3. Articular affections, proved to be closely connected with *urethral* affection.

"4. Affections *non-articular* in character."

The cases belonging to these four tables are stated with considerable circumstantiality. Table I, contains 47 cases :

"From a review of the symptoms exhibited by patients in Table I, it is evident that the majority of them are such as no physician would hesitate to affirm to be those of *true gout*, and in some, whose symptoms were not so striking during the attack under consideration, the history at once gives the clue to the nature of the disease; still there are a few, where no hereditary predisposition could be discovered, who never had the great toe specially affected, who never appeared, from their own statements, to have lived very freely, whose symptoms might, according to the definition

of the diseases gout and rheumatism usually given, be referred either to gout or rheumatism, provided that the condition of the blood, or the effects produced upon the disease by remedies, were not taken into consideration; and it is the true nature of such cases that it is the especial object of the present communication to endeavour to elucidate. Very many patients called the disease under which they were labouring, *rheumatic gout*, and on questioning them, said that their former medical attendants had so called it; as a rule, however, it was not the really difficult cases which were so named, but those in which the patient had formerly suffered from acute gout, but which disease had, in process of time, merged into a chronic affection. Not unfrequently, these so-called rheumatic gout patients exhibited abundance of chalk-like deposits of urate of soda in different parts of the body. With regard to the amount of uric acid contained in the blood, I think that it bears no direct proportion to the intensity of the local symptoms; often, I believe, an inverse ratio may hold good, as I have reason for suspecting that the local inflammations tend greatly to destroy this body, and therefore, in cases where the joint affection has remained a long time, we should not be surprised to find it greatly diminished."

The actual summary is as follows :

The average age of patients was . . . . .	47 years.
The males formed . . . . .	about 95 per cent.
Hereditary predisposition was traced . . . . .	in 50·0 "
Free living and drinking had existed . . . . .	75·0 "
Painters or plumbers formed . . . . .	24·3 "
Drink acted as the exciting cause . . . . .	in 39·5 "
The great toe had been specially affected . . . . .	82·9 "
No great toe affection . . . . .	5·7 "
Doubtful . . . . .	11·4 "
Œdema noticed . . . . .	68·5 "
Deposits of urate of soda . . . . .	45·9 "
Acute cardiac affection . . . . .	none.

Table II contains an account of 35 cases of articular disease, not connected with urethral affection, and in which no uric acid was found in the blood. The majority of these were such as a physician would pronounce to be cases of true rheumatism. This is their summary :

The average age . . . . .	was 30 years.
The males formed . . . . .	but 40·0 per cent.
Hereditary affection was traced . . . . .	in 33·0 "
Cold acted as an exciting cause . . . . .	88·8 "
Œdema noticed . . . . .	12·9 "
Acute cardiac affection . . . . .	41·9 "
Deposits of urates of soda . . . . .	none.
Great toe <i>especially</i> affected in . . . . .	none.

"In Table III will be found the results of the examination of the blood in 6 patients; in whom, although the joint affection simulated very closely true rheumatic disease, yet were separated from the cases in Table II on account of a clear relation being established with urethral inflammation; it was not thought necessary to enter into detail with regard to these; suffice it to say, that the larger joints were generally

most affected, that in none was cardiac affection present, and that the febrile disturbance was by no means proportionate to the joint affection, when compared with genuine acute rheumatism, thus separating them from the cases in Table II; and from those in Table I, the want of special great toe affection, and the absence of uric acid in the blood, at once serves to remove them completely.

"All the patients in this Table were males.

"Table IV gives the results of the examination of the blood from sixty patients suffering from various diseases, and it will be noticed that uric acid was stated to be absent in forty-seven, and present in thirteen. On making an analysis of these thirteen cases, it is found that five were patients suffering from albuminuria, temporary or permanent, a disease which, as I have observed in a former paper, may or may not be accompanied with excess of uric acid in the blood; and the above results fully confirm my former statement, for we also find in Table IV other cases of the same disease where no uric acid was discovered. One was a case of cholera, and during collapse both urea and uric acid are retained in the circulating fluid. (I might have given other analyses in this disease, showing this fact, but they have already been brought forward in a paper on the 'Pathological Condition of the Blood in Cholera.') In a specimen of blood from a surgical ward, stated to be from a patient with inflammation of the eye, a trace of uric acid was exhibited by the thread experiment; nothing was known of the case, whether gouty or not: again, a few crystals were seen in a case of a man with pneumonia, and much in one with bronchitis,—with regard to the pneumonic patient, it could not be discovered that he had ever had gout, and a very small amount only of the acid was found; the bronchitic man, although nothing is stated in his history as to any hereditary predisposition to gout, yet exhibited peculiar nervous symptoms not at all unlike those which precede a gouty attack, and these perhaps may be explained by the condition of the blood. In Table I is contained a case which bears upon this subject; the patient, Clubb, was admitted for chest affection, bronchitis, and emphysema; the blood was examined, and found loaded with uric acid; the affection did not yield to the ordinary treatment for bronchitis, but after a few days the chest symptoms almost instantaneously vanished upon the appearance of gout in the great toe and knee.

"With regard to the remaining four cases, I may state, that they were not suffering from articular disease; and the nature of the affection is withheld on account of the subject having much interest, and being at present under investigation."

This is a sketch of the evidence upon which Dr. Garrod endeavours to show that the presence of an excess of uric acid in the blood is pathognomonic of gout, and that rheumatic gout has no existence. It does not help us to distinguish between ordinary rheumatism and the rheumatism connected with urethral affection, or a purulent condition of the blood; but it is a great point gained to be able to distinguish gout from these affections.

Dr. Garrod states that the blood is *always alkaline* in gout and rheumatism, and that no condition of the urine is of itself characteristic of either of these affections.

*Clinical Lectures on Paralysis, Disease of the Brain, and other affections of the Nervous System.* By R. B. TODD, M.D., F.R.S., Physician to King's College Hospital. (12mo, Churchill, 1854, pp. 462.)

These lectures were delivered on various occasions, during the last ten years, in King's College Hospital, and some of them have appeared in one of the weekly periodicals. In this way we have already had occasion to notice several of Dr. Todd's opinions, just as in a previous page of the present volume we have had to notice his theory of epilepsy.

It is not easy to trace the steps of an author through the meanderings of a clinical lecture, where at every step he is obliged to turn from the direct course to suit the peculiarities of the case which serves as his theme; and for this reason, and because our time is short, we will take what we conceive to be the shortest way with the quotations and remarks we are about to make. We begin at once with Dr. Todd's remarks upon the varieties of cerebral paralysis.

"First, and most commonly, you have the typical hemiplegia of diseased brain, that is, a brain affected with some distinct and special lesion, such as an apoplectic clot, a softening involving a considerable portion of the centre of volition, or a tumour in this centre, or compressing it. With this you may contrast the rare but not less certain spinal hemiplegia caused by a lesion involving one half of the spinal cord, just below the decussation of the pyramids. Thirdly, you may have hemiplegia consequent upon an epileptic attack, in which the paralysing lesion is generally transient, and the palsy remains only a few hours, or at most a few days, after the epileptic attack. From this close connexion between the paralysis and the epileptic fit, I prefer to mark this form of hemiplegia (although it may strictly be classed with the cerebral hemiplegia) as *epileptic hemiplegia*. Fourthly, you may have hemiplegia following, and sometimes, although rarely, preceding chorea—*choreic hemiplegia*. Fifthly, you meet with a peculiar and less perfect form of hemiplegia in hysterical women—the *hysterical hemiplegia*; and in nervous, hypochondriacal men I have seen an analogous form brought on under the influence of strong emotion. Lastly, you have a form which, from its mode of access, creeping as it were from periphery to centre, you may call *peripheral hemiplegia*—the *creeping palsy* of Cheyne.

The various remarks which occur here and there upon the diagnosis of these different kinds of palsy, are very interesting, and particularly those which concern the *hysterical* variety. The movement of the leg, in Dr. Todd's opinion, is characteristic. Thus:

"If you look at a person labouring under ordinary hemiplegia from some organic lesion of the brain, you will perceive that, in walking, he uses a particular gait to bring forward the palsied leg: he first throws the trunk to the opposite side, and rests its entire weight on the sound limb; and then, by an action of circumduction, he throws forward the paralysed leg, making the foot describe an arc of a circle. Our patient, however, does not walk in this way; she drags the palsied limb after her, as if it were a piece of inanimate matter, and uses no act of circumduc-

tion, nor effort of any kind to lift it from the ground; the foot sweeps the ground as she walks. This I believe to be characteristic of the hysterical form of paralysis."

Elsewhere, Dr. Todd speaks more at large on the same subject.

"The diagnosis of *hysterical paralysis*, whether it be of the hemiplegic or paraplegic form, or whether one limb only be affected, depends on these points:

"1st. The hysterical constitution of the patient herself and of her family; and there are certain signs which, as you know, are held to be indicative of the *hysterical diathesis*, such as a lax condition of the tissues generally, a peculiar fulness of the upper lip, drooping of the upper eyelids, &c.

"2d. The absence of signs of lesion of the nervous centres.

"3d. The characters of the paralysis itself; the absence of palsy of the face and tongue; the peculiar movement of the leg in progression; the fact of the paralysis not being complete, the muscles not being so much wasted, and the fact of the patient being sometimes able, under the influence of strong emotion, to use the paralysed limb as well as the sound one, or nearly so. But you will not fail to recollect that, even in decided lesion, the paralyzed arm is sometimes moved in yawning or sighing, or under strong emotion."

In diagnosing the other and more ordinary forms of paralysis, it is directed that particular attention should be paid to the state of the arteries and heart, and very wisely so.

"In all cases of cerebral hemiplegia," says the author, "I advise you to pay minute attention to the investigation of the arterial system, and also of the heart. In old persons, or those somewhat advanced in life, we often find in the state of the radial or temporal artery a clue to the condition of the arterial system in general, and of the arteries of the brain in particular. In feeling the pulse you should roll the artery beneath your finger, and examine in this way as long a portion of it as you can get at. If the artery be diseased you will find a thickened state of its wall, and sometimes you will be able to detect distinct deposits in it, which now and then will be hard and resisting, owing to their admixture with earthy matter. You will be careful likewise to examine and compare the arteries of both sides, when you will often find corresponding states, and that the deposits exist more or less symmetrically. And this should confirm your suspicions, that the diseased state is not limited to the radial or temporal arteries, but exists pretty extensively throughout the arterial tree."

"Your conclusion respecting the morbid state of the arteries will receive further confirmation if, on examining the heart, you obtain evidence of its being in a state of hypertrophy, for a morbid state of the arteries is a fruitful source of hypertrophy of the heart. But, indeed, a disease of the heart of any kind, in advanced life, is very liable to be accompanied with a more or less diseased state of arteries."

Apropos of this subject, Dr. Todd takes occasion to speak of arterial-plugging, as a cause of hemiplegia. He says:

"Nevertheless, I must confess that I am not convinced that in cases such as Virchow and Kirkes refer to, the stoppage of the arterial circulation is always caused by a plug accidentally brought from a distant part of the circulation. I should be more disposed to refer it to a

coagulum formed in the artery, promoted by an altered nutrition of its wall—*arteritis*, if you choose so to call it—and connected with a rheumatic or other morbid state of blood."

The great point which is inculcated in the lectures under consideration, however, and that which constitutes their chief originality, is the use which may be made of the condition of the muscles in paralysis as a means of diagnosis and classification, and as a guide in treatment. This subject is one of extreme interest, and it may be said to be Dr. Todd's own. Speaking of a case, which it is not necessary to cite, Dr. Todd says :

"A very interesting and important feature in the paralysis in this case, is the accompanying spastic or rigid state of the muscles. This rigidity, according to my experience, if it supervene early in the paralytic seizure, or simultaneously with the paralysis, indicates irritative disease within the cranium. It is not uncommon, however, to meet with cases in which there has been very complete paralysis, with perfect resolution of the muscles; but after a time these muscles slowly become rigid, the fingers become flexed, and sometimes firmly pressed against the palm of the hand, the hand bent upon the forearm, and the forearm upon the arm, with a tense and spastic, although wasted condition, of the muscles. This late form of muscular rigidity you must carefully distinguish from the early one, inasmuch as the former indicates that there has been loss of substance in the brain, and that the cicatrix is undergoing contraction.

"You will meet, in practice, four different conditions of the muscles in paralytic limbs in different cases. The first differs scarcely at all from that of the healthy muscles; the muscles exhibit, perhaps, less firmness, and are less excitable by the galvanic stimulus, when the paralysing lesion is not of an irritative kind. A second condition presents complete relaxation of the muscles: they are soft, imperfectly nourished, and waste with wonderful rapidity; so that under a paralysis of a few days' duration the size of the limb experiences a very marked diminution. In these muscles there is very little excitability to the galvanic stimulus—sometimes almost none. This is the most complete condition of paralysis, in the strict sense of that term, and it is sometimes accompanied with phenomena which denote a depressed state of the general nutrition of the limb: the pulse in the large arteries of that side is weaker; there is sometimes more or less of oedema, especially if the limb be kept in a dependent position; and the heat of the limb is imperfectly maintained. Some of these cases get well; others continue paralysed, although the general health of the patient improves, and the muscles become wasted to mere membranes; others, again, continue paralysed, but the muscles gradually assume a condition—the third condition to which I wish to call your attention—one of contraction and rigidity, the flexor muscles always exhibiting this state to a greater degree than the extensors. The muscles are still wasted, but they are stretched like tense cords between their origins and insertions. The biceps in the arm, and the hamstring muscles in the thigh, project beneath the skin like tense membranes. This condition is due to a chronic shortening of the muscles themselves: they are tense, but not firm nor plump; it is undoubtedly a form of muscular atrophy, of which

a contracted and rigid state is a prominent feature. A fourth condition is illustrated by our present case. The muscles suffer very little, or not at all, in their nutrition; they are either constantly firm and rigid, or become so on the slightest movement of the limb; the paralysis is seldom complete. In these cases there is more or less of an exaltation of nutrition—the circulation in the limb is vigorous, and its heat is not below the standard of the other limb; and it is frequently more excitable by galvanism than the corresponding muscles on the other side.

"I must beg your particular attention to these various states in which the muscles of paralytic limbs are found. You may draw practical inferences from them of great value in treatment: when the condition of rigidity is present early, your patient will bear local bleeding or local counter-irritation, or both; and may derive benefit from these measures, provided other symptoms do not contraindicate them. The state of complete relaxation affords no indication for antiphlogistic treatment, but on the contrary, in many of the cases in which it occurs it should be regarded as affording a contrary indication. As to that condition in which the muscles assume the contracted state gradually, and some time after the paralytic seizure, I wish much it were in my power to suggest some means of arresting it. Some slight benefit is gained by subjecting the limb to frequent extension at stated periods in the day: this I believe will retard the contraction, so long as it is diligently persisted in; but when it has been laid aside the contraction will go on just as if the extension had never been employed. The case is analogous to that of stricture in the urethra, or of the cicatrix after a burn, which exhibit a remarkable tendency to contract, requiring in the former case the long-continued use of the bougie, and in many instances its frequent employment throughout the entire life of the patient. In both instances, indeed, I believe I am correct in saying that surgeons have hitherto failed in finding any means to check effectually the tendency to contraction."

\* \* \* \* \*

"Looking, then, to the state of the muscles of the palsied limbs, I arrange cases of cerebral hemiplegia in three classes:

"The first class consists of those cases in which the muscles of the paralytic limbs are completely relaxed. The limbs are loose and flaccid, and if you flex the forearm upon the arm, or the leg upon the thigh, you find no resistance or opposition to that movement. When you feel the muscles you find them lax and flabby, contrasting more or less with the firmness and plumpness of those of the sound limbs, and they are more or less wasted according to the period of time which has elapsed since the paralytic seizure.

"In the second class I place those cases in which the paralysed muscles exhibit a certain amount of rigidity, *which rigidity has existed from the moment of or soon after the attack.* This rigidity varies in degree from an increased plumpness of the biceps of the arm and the hamstring muscles in the thigh, and a resistance on the part of these muscles to extension of the forearm or leg, up to a contraction almost tetanic. The nutrition of the muscles in cases of this class is not materially weakened at first, and the wasting is consequently either *nil*, or to

a very trifling extent. If, however, the palsy persist, the muscles waste, although not so fast as in the first class of cases.

"In the third class, we find cases with rigid muscles likewise. In these cases the rigidity is a late phenomenon. It does not occur for some time after the paralytic seizure. The cases of the first class often pass into this. The wasted and relaxed muscles after some time gradually acquire more or less of tension; they become shortened, and appear like tight cords stretched between their origin and insertion. The tension is most manifest in the flexor muscles, and the limbs assume the state of more or less flexion, especially the upper extremity. The forearm becomes strongly contracted on the arm, and the fingers flexed into the palm of the hand, which is liable to be irritated by the growth of the nails."

(a) Of the paralysis of the first class it is not necessary that we should speak.

The paralysis of the second class—that with early rigidity of the paralysed muscles, has two varieties:

"The one in which the rigidity of the paralysed muscles is very slight, and confined to one or two muscles; the other, in which it is considerable, and affecting all, or nearly all, the muscles. The former of these is very apt to occur in those cases of hemiplegia, in which most of the paralysed muscles are flaccid, one or two only being in a rigid condition; and, as illustrations of this form, I adduced cases in my last lecture, in which there was a greater or less impairment of consciousness—where a clot had been formed with laceration of brain-substance, and where hemiplegia resulted, accompanied with a flaccid condition of all the muscles of the paralysed arm and forearm, except the biceps; other cases will occur in which there will be slight rigidity, not only of the biceps but also of the triceps and the flexor of the fingers, and in a still less degree of the hamstring muscles and the biceps femoris. In many cases of this description, the rigidity of these muscles will not be apparent, unless they are thrown into action by exciting their antagonism. Thus, when you attempt to extend the forearm upon the arm, you will find that the biceps will become more or less stiff and rigid, and resist the extension; and so also will the triceps resist flexion; and in like manner, will extension of the fingers be resisted by the flexores digitorum. In general the actual assumption of the rigid state, or the tendency to assume it, is more marked in the flexor muscles than in the extensor, and in the upper than in the lower extremities. It likewise very rarely affects the muscles of the face, or any other paralysed muscles than those of the limbs; but sometimes the muscles of mastication are involved, as the patient, although insensible, will resist powerfully any attempt to open the mouth.

"This condition, of slight and partial rigidity of muscles, is that of most frequent occurrence in the hemiplegia caused by an apoplectic clot. My idea as to its cause is, that it depends upon a state of irritation, propagated from torn brain to the point of implantation of the nerves of the affected muscles. But, you will ask, why is it that in some cases of clot the hemiplegia will be accompanied with complete relaxation of muscles, while in other cases the rigidity of which I have spoken exists? The answer to this question is as follows: in the cases

where there is no rigidity the clot lies in the midst of softened brain, and has not in any degree encroached upon sound brain; but when rigidity exists the clot has extended beyond the bounds of the white softening, and has torn up to a greater or less extent sound brain. I leave this explanation to be tested by further experience and observation." \* \* \* \* \*

"The prognosis in this form of hemiplegia is, on the whole, unfavorable: many of the cases die pretty soon after the attack, especially when the brain-lesion is complicated with a sanguineous apoplectic effusion. As a general rule, the larger the clot the shorter will be the duration of life. Patients will survive an attack of this kind from a few hours to two or three weeks. *Perfect* recovery is, I suspect, extremely rare; indeed I doubt that it ever occurs, excepting after inflammatory softening of very limited extent. In a few cases the state of rigidity gives place to that of relaxation, and the limbs remain relaxed and paralysed for the remainder of life—the muscles becoming wasted to the last degree."

"Many cases recover a slight amount of power in the paralysed limbs, after the shock of the palsy-stroke has passed off. But this improvement is not progressive, and, after the lapse of time, the muscles waste, the rigidity remains or increases, and the limb is permanently more or less flexed. In short, the paralysed limbs pass into the condition of what I would call *late rigidity*."

(b) The paralysis with *late rigidity* of the paralysed muscles may follow the hemiplegia with relaxed muscles, as well as that in which there is early rigidity. Dr. Todd's description of it is in connection with certain cases:

"I have already described a well-marked example of this form of hemiplegia in the case of Shea (Case XXIX). In this man, who frequently presents himself at the hospital, you have a favorable opportunity of observing the peculiar condition of the paralysed limbs. In the first place, you will perceive that the muscles are wasted; next, that the limb is in flexion, and sometimes almost in extreme flexion; the arm is strongly adducted to the side, the forearm bent upon the arm, and the fingers bent into the palm of the hand. In extreme cases this state of the fingers is often attended with great inconvenience, from the irritation to the skin of the palm caused by the growth of the nails. Lastly, the muscles are tense like cords.

"It is remarkable that in this, as in the palsy with early rigidity, the rigidity is most marked in the upper extremity, which is nearest the seat of the paralysing lesion.

"In the history of Shea, you have that of nearly all the examples of this form of hemiplegia in its highest degree. He, you remember, fell in an apoplectic fit, and came out of it with hemiplegia of his right side, with all the muscles relaxed except the biceps. He regained power slightly, but after some time the process of wasting and of contraction showed itself in the muscles, and now they are not only attenuated, but stiffened, as you may often see them in the dead body during the continuance of the rigor mortis. The attempt to extend the flexed joints is encountered by a powerful resistance, which can be only partially overcome, and always excites pain. In its lowest degree the rigidity in

this form of hemiplegia is limited to the flexors of the fingers. There are few cases, indeed, of long-standing paralysis which do not exhibit some degree of flexion of the fingers, resembling very much that caused by rigor mortis in the dead body. In the lower extremity the stiffness is most in the hamstring muscles, and in those of the calf, and the tibialis posticus and the flexors of the toes, and the biceps femoris. In its lowest degree it will affect the flexors of the toes or the hamstring muscles, or both.

"As the process of contraction shows itself, in general, most in the upper extremity, so also it generally commences there; but now and then it will begin in the lower extremity: not unfrequently it will be met with in the upper extremity only.

"The view which I have always taken (and which many of you have heard me express in passing through the wards) of the manner in which this contraction is produced, is this: at the seat of the original lesion, whether it be simply a white softening, or an apoplectic clot, or a red softening, with more or less destruction of the brain-substance, there takes place an attempt at cicatrization, more or less perfect. Attendant on this, there is a gradual shrinking or contraction of the cerebral matter, which, acting on the neighbouring healthy tissue, keeps up a slow and lingering irritation, which is propagated to the muscles and excites in them a corresponding gradual contraction, while at the same time their nutrition becomes seriously impaired by the want of proper exercise, and the general depressing influence of the lesion."

Dr. Todd adduces several beautiful cases to show that the occurrence of late muscular contraction is coincident with, and consequent upon, the contraction of the cerebral cicatrix by which the old apoplectic lesion is repaired, and the idea is very ingenious. Still we cannot admit its correctness. We hold that muscular rigidity comes on, sooner or later, in all cases of paralysis, and as a necessary consequence of the *paralysis*. If the rigidity comes on late, it is because the innate electrical action of the muscle has died out, this dying out being mainly owing to the failure in nutrition consequent upon the want of exercise. In this case, the contraction happens for the same reason as *rigor mortis*. Indeed, it is the anticipation of *rigor mortis* — a *rigor mortis in vitâ*. The shrinking of the cicatrix is only a coincidence, and not a cause. We hold, moreover, that the contraction which comes on at an early period is connected with *imperfect paralysis*. If the connection between the muscle and brain were completely severed, the muscle would remain relaxed until the innate electricity of the muscle had had time to die out, and this would not be until the nutrition of the muscle had failed more or less completely, *i. e.*, for several months, and possibly for years; but if the connection between the muscle and the brain was not completely severed, then the innate electricity of the muscle might be suspended in obedience to certain corresponding changes in the brain, and contraction might be the result. There is no necessity for irritation or inflammation to account for this contraction, any more than for voluntary contraction, and Dr. Todd's pages afford no evidence to the contrary. That the paralysis is incomplete is admitted by Dr. Todd. We would not have ventured thus to criticise these points, if they

had not been made to bear upon what we conceive to be an unsound rule of practice, for thus writes the author :

“ Looking over all the forms of hemiplegic paralysis which I have described, the antiphlogistic plan of treatment is strictly and fairly applicable only to that, in which the rigidity of the paralysed muscles occurs early, and it must then be employed proportionately to the strength and age of the patient; but recourse to *large* bleedings is certainly not justifiable in any case with which I am acquainted. By a large bleeding I mean such as exceeds ten or twelve ounces taken at once. The remedies to be used in such a case are mercury, free purging, and general or topical bleeding; but in the other forms of hemiplegia, no extensive antiphlogistic treatment should be adopted, and especially in the simple hemiplegia without loss of consciousness, which is purely an atrophic disease. You should adjust the diet to the powers of the stomach; keep the patient in the horizontal position, as quiet as possible; and carefully guard against all causes of mental agitation or excitement.”

Now we hold that the fact of muscular contraction never demands depletory measures, and that the contraction which occurs occasionally at the commencement of paralysis is no exception to this rule.

We have, however, small occasion to differ with Dr. Todd in any principle of treatment, and there are many points in which we cordially agree with him. We agree with him, for instance, in these remarks :

“ I have met with more than one instance of bad consequences following upon the removal of a patient in delirium, or just recovered from it, prematurely. About two years ago a man was admitted here for epileptic delirium. Finding that his delirium was very noisy, and disturbed the other patients, I had him placed in a separate ward, where he recovered from his delirium. It was found necessary to move him upstairs, and shortly afterwards he became delirious again, and died comatose.

“ I am satisfied, from these and other cases, that there is nothing respecting which we ought to be more cautious than as to moving patients either in or just recovered from delirium; even to move them from one room to another on the same floor is dangerous, still more moving to any distance, or to another floor. Let us take this case as a warning of the necessity of great caution and circumspection before we sanction the removal of a patient under such circumstances.”

We agree with him in what he says about strychnia and electricity :

“ When the paralysis is the result of cerebral lesion, neither of these remedies promises much good, and they very frequently do harm. In the administration of strychnia, the greatest caution must be used; and if electricity be employed, it should be of feeble intensity.

“ There is one curious fact with respect to the exhibition of strychnia in these cases, which was first noticed by Fouquier: it is, that this agent first shows its effects on the paralysed limbs. This fact was some time ago brought forward by Dr. Hall, to show that in paralysis dependent on cerebral lesion, the irritability of the paralysed muscles is augmented. Sufficient facts have, however, now been collected to prove that this statement is not correct—that the muscular irritability in such cases is

not increased, though in certain instances the paralysed muscles may be more excited by a galvanic stimulus than the sound ones. The reason why strychnia first manifests its action on the paralysed limbs is, because it is attracted in greater quantity to the diseased side of the brain than to the healthy side, and it there excites an irritative condition, which is propagated to the paralysed muscles; and this ought to point out that the use of strychnia in these cases is by no means devoid of danger, as it tends to produce at least an irritated, if not an inflammatory condition of brain around the seat of lesion."

We do not quite agree, however, in this last explanation. On the contrary, we should be disposed to think, that the strychnia acts first upon the paralyzed muscles, because they are paralysed, and therefore weaker than they ought to be. We should think that the strychnia depresses the system generally, that the muscular twitches are the direct consequence of this depression, and that the twitches happen soonest in the paralysed muscles, simply because these muscles are more depressed to begin with, and therefore more prone to yield to the depressing influence of the poison.

We also agree fully with Dr. Todd, in supposing exercise to be the great means of restoring tone to paralysed muscles. He says :

" You will often be consulted as to 'some expedient for promoting the restoration of the paralysed limbs to their normal condition.' To this question, after having given a fair trial to the various means which have been proposed for this purpose, I must reply, that I know of nothing which more decidedly benefits the paralysed limbs than a regulated system of exercise; active, when the patient is capable of it; passive, if otherwise. As to the use of electricity, which is now much in vogue, or the employment of strychnia, which has been strongly recommended, I feel satisfied, as the result of a large experience, that the former requires to be used with much caution, and that the latter is very apt to do mischief, and never does good. I have seen cases in which, after the employment of electricity for some time, that agent has apparently brought on pain in the head, and has excited something like an inflammatory process in the brain. And so strychnia also will induce an analogous condition of brain, and will increase the rigidity of the paralysed muscles.

" Some good may occasionally be effected by the use of frictions, or cold water, or shampooing, all of which tend to improve the general nutrition of the nerves and muscles.

" In my next lecture, I propose to speak of that form of hemiplegia, which is associated with a more or less rigid condition of the paralysed muscles."

Several lectures, based upon many admirable cases, are devoted to the illustration of these and other points in connection with cerebral paralysis; and two or three lectures at the termination of the volume are given to other cases—as of spinal hemiplegia, of epileptic coma and lead palsy, of syphilitic disease of the dura-mater, of trismus, of chorea, and of local hysteria. The lecture on spinal hemiplegia is based upon a couple of most admirable cases.

Such is a very inadequate notice of a book, the perusal of which cannot fail to be attended with much pleasure and profit.

1. *A Treatise on Hooping-Cough, its complications, pathology, and terminations, with its Successful Treatment by a New Remedy.* By GEORGE D. GIBB, M.D. 1854. London, pp. 396, 12mo.
2. *English Statistics of Hooping-Cough.* By EDWARD SMITH, M.D., LL.B. (Lond.) 'Medico-Chirurgical Transactions,' vol. xxxvii, 1854. London.

We may legitimately divide all books of value into two categories—viz., such as give, with more or less completeness, an account of that which is already known, and such as profess to convey new information combined with, and based upon, some matter which is confessedly not new. The two works which we have placed at the head of these remarks are illustrations in point in the order in which we have placed them.

1. We have read Dr. Gibb's work with attention, and are impressed with the industry, impartiality, and modesty of its author. There is nothing in it which may fairly be said to be new—not even the so-called new remedy which we are sorry to see occupy so prominent a position upon the title-page; but it is a faithful resumé, written in an intelligible and quiet style, of that which is already known, and as such we commend it to the attention of our readers.

As it is intended to be a compendious monograph upon the subject of hooping-cough, the author begins with a summary of the anatomy and physiology of the subject, which, for professional readers, might with great propriety have been omitted. He then proceeds to detail the history of the disease from the twelfth century downwards, which leads him into a short, but correct account of the statistics of the disease as occurring in this country and on the continents of Europe and America.

He adopts Dr. West's division of the stages of the disease—viz., catarrhal and spasmodic, and the period of decline, and describes the symptoms peculiar to each; and before entering upon its terminations relates, in somewhat unnecessary detail, its complications with bronchitis, pneumonia and pleuritis, congestion of the brain, convulsions and hydrocephalus, sanguineous apoplexy, infantile remittant fever, diarrhoea and intestinal disorder, softening and inflammation of the stomach, general dropsy, the exanthemata, tuberculosis, pregnancy, hysteria, and "other diseases." We think more favorably of the succeeding chapters, which treat of the terminations and the pathology of hooping-cough; and since the author professes to promulge a new remedy, we think it better to let him give his views of the pathology of the disease in his own words:

"1. Toxication of the blood, produced by some unknown specific influence, peculiar in its nature, not unlike that of measles and scarlet fever, in the circumstance of its affecting persons once during their lives, generally children under five years of age.

"2. Irritation of the terminal loops of the nerves supplying the mucous membrane of the bronchial tubes, producing vascularity and consequent secretion of a greater or less quantity of mucus.

"3. Reflex action of the pneumogastric and respiratory nerves, followed

by congestion of the vessels of the medulla oblongata and pia mater surrounding it, and also at the origins of its nerves.

“4. Spasmodic contraction of the circular and longitudinal muscular fibres of the bronchi, consequent upon the foregoing, manifesting itself in the series of sudden expiratory efforts, and the well-known sonorous back draught or hoop.

“5. The immediate result of which is frequent and rapid respiration to compensate for its temporary absence, producing a highly oxygenated or super-oxidized state of the blood, with a tendency to the formation of fibrinous concretions in the heart during the spasms.

“6. As a secondary result of the spasmodic muscular contraction of the bronchi, we have a temporary hypertrophy of the muscular fibres thus acted upon, which disappears again after the cure is established.

“7. The disease is at first irritative and catarrhal, and afterwards nervous and spasmodic, both due to the unknown peculiar exciting cause, present in the blood.

“8. It manifests the peculiarity of running a special course, through its different stages, three in number, but which may be cut short, or greatly diminished by medicinal treatment.”

The topography and causes of the disease are next discussed, with its diagnosis and prognosis, and a multitude of authors are quoted, on whom Dr. Gibb very wisely leaves the responsibility of their various opinions, without hazarding any statement of his own. The treatment of the disease occupies four chapters, or one hundred pages, and of its complications one chapter; and almost every remedy which has at any time been introduced into the science of medicine for the cure of hooping-cough, is referred to and discussed on the responsibility for the most part of their respective proposers. The treatment adopted by Dr. Gibb is that of nitric acid, as employed by Dr. Arnoldi, and the following are his formulæ.

**R** Acid. Nitrici dil., 3xij,  
Tinct. Cardamomi co., 3ijj;  
Syrupi Simplicis, 3ijss;  
Aquæ, 5j. M.

*Vel,*

**R** Acid. Nitrici dil., 3xij;  
Tinct. Gentianæ comp., 3iss;  
Mellis optimi, 3ij;  
Syrupi Simplicis, 3iss;  
Aquæ, 5j. M.

Fiat mistura. Capiat cochleare medium quaque horâ, vel secunda quaque horâ.

“For a very young infant, the dose may not exceed a teaspoonful every two hours.

“For children from two to five years of age, the quantity of the dilute acid may be increased to fifteen drachms for an eight-ounce mixture, well sweetened with the honey or syrup, and given in the dose of from two to three drachms every hour, or every second hour, during the daytime particularly.

R Acid. Nitrici dil., 3xv;  
 Tinct. Cardamomi comp., 3v;  
 Syrupi Simplicis, 3ivss;  
 Aquæ, 3j. M. Ft. mist.

"If the patient be an adult, or above ten years of age, half an ounce of this mixture may be taken every hour. The enlightened practitioner will use his own judgment as to the proper dose, according to age and circumstances."

In reference to the mode of action of this remedy the author states, after referring to Dr. Todd's desideratum of a material which should neutralize the poison of the disease, "it would be presumption in me to say that this substance has been discovered; but in its effects upon the disease, nitric acid, in whatever manner administered, not only arrests the paroxysms and removes the hoop, but shortens the disease almost as effectually as quinine does intermittent fever. It not only produces a powerful antispasmodic effect, but an equally tonic influence, and supplies to the blood an element—nitrogen—which removes or neutralizes the excess of fibrine existing in that fluid—one of the dangerous elements of the disease—and so destroys the poisonous principle combined with it, which is the primary cause of the affection."

We do not doubt that nitric acid has done service in the cases narrated by the author, as have done the thousand-and-one specifics which heretofore have been extolled on equal authority; neither do we doubt that, like its thousand-and-one companions it will ultimately disappoint the sanguine practitioner, and fall into disuse.

Dr. Gibb is capable of yet better things, and we hope to meet him again.

2. Dr. Smith's paper is, as its title intimates, wholly devoted to statistics, and it was read before the Royal Medical and Chirurgical Society. It proposes to be a continuation of a series of statistical papers which were published by him in the 'Medical Times' in 1851, and is based exclusively upon the returns of the Registrar-General. He has for the most part restricted his attention to the returns for London for the seven years—1847 to 1853 inclusive,—but occasionally he has referred to the last published returns of the mortality from this disease for the whole of England and Wales, and from the whole he has compiled three diagrams, which exhibit at a glance the relations between temperature, hooping-cough, and other diseases.

The subject is discussed under the four heads of frequency, influence of age, of sex, and of season.

In reference to *frequency*, he has ascertained that in the London district it occupies the 7th rank in the 99 diseases under which the Registrar-General has arranged the total mortality. "The only affections of the chest (a class of affections with which it may be associated), which have a higher mortality, are phthisis, pneumonia, and bronchitis, in their order; of members of the zymotic class (with which it is also connected) only typhus and scarlatina exceed it; and lastly, of diseases of the nervous system (with which it again has a correspondence) convulsions alone have a higher mortality." Hydrocephalus,

apoplexy, measles, and smallpox, each in its order, was less fatal than hooping-cough. This was varied somewhat in the great registration divisions of England, so that in the Eastern division there were only three diseases more mortal than hooping-cough—viz., phthisis, pneumonia, and typhus. In the York and the South-Eastern divisions there were respectively only 5 and 6, whilst in the South-Western there were 16 more fatal diseases. The ratio to the population was, for all England as 1 to 45.7; and it varied from 1 to 28 in the Eastern, to 1 to 94.8 in the South-Western division. Of the seven years (1847 to 1853) the mortality was the greatest in 1850 (50 per week), and the least in 1844 (25 per week), and in this there was no correspondence with the amount of the general mortality, or the mortality from diseases said to be allied to hooping-cough.

As it respects *age* he found it to be the most mortal of all diseases in persons under one year, except convulsions, pneumonia, and diarrhoea; and since these terms comprehend many rather than single diseases, he affirms that at that period of life it kills more than any other disease. The ratio of the dead, from this disease, to the living at that period is the fearful one of 1 to 123. He found that more than two fifths of the whole deaths occurred under *æt.* 1, more than two thirds under *æt.* 2, and nineteen twentieths under *æt.* 5.

The influence of *sex* is very apparent, since the mortality is greater for the whole of life, and for each year of life, in the female than in the male sex, and that preference *increases as life advances*. “Thus, whilst under *æt.* 1 the excess in the ratio of mortality amongst females is one sixth, it is less than one third in the 5th year of existence, and was reduced to one fourth in the 2d year, and one fifth in the succeeding intervals.” He is disposed to attribute this to “a predisposition arising from organization, since we may assume that the peculiarities of the female organization are not so distinguishably developed within the first year, as in subsequent periods of life.” In discussing the question of the higher sensibility and delicacy of organization as a predisposing cause in the female sex, he is met by the difficulty that convulsions, which are more clearly a disease of the nervous system, are more mortal in the male sex, and seeks somewhat speciously to overcome it by stating that a disease may be more “prevalent” in one sex, and more “fatal” in the other sex.

The greater part of the essay is occupied by a consideration of the influence of *season*, and it is in this that we consider its chief merit to lie.

On a review of the average temperature and mortality from hooping-cough of the seven years, 1847 to 1853, he comes to the conclusion that “considering the year as a whole, we do not trace the connexion between *excess* of cold and *excess* of mortality;” but that the mortality essentially attends upon temperature is made clear by reference to these points in each quarter. Thus, he found that “the greatest mortality occurred five times in the first, and once in the fourth quarter, and the lowest mortality five times in the third, and twice in the fourth quarter.” And in reference to the summer and winter half-years he has ascertained that “the greatest mortality was five times in the winter, both of the same and of consecutive years, and the least mortality five times in the summer.”

In order to develope this fact more completely, he has prepared a table and diagrams, which show "the mean weekly average of monthly mortality and temperature of London" for the years 1847 to 1853, and has thus reduced the periods within limits so narrow that the effect can scarcely escape its connection with the cause. In this way he finds that—

"The mortality and temperature are in the inverse ratio to each other, and that the former proceeds in waves from about August, when it is at its minimum, to about April, when it is at its maximum, returning to its minimum about the following August, and thus continuing in even waves of increase and decrease, with remarkable regularity, from year to year. The maximum and minimum months occasionally vary. Thus, the former, instead of being April, may be March, and in one instance, it was the preceding December; whilst the latter, instead of being August, may be July or September, and in one instance, was even November. This degree of variation, however, in no sense invalidates the rule which has just been laid down. In reference to temperature, the diagram proves that the month of its maximum is not that of the minimum of mortality, but the one which immediately precedes it; and so, in like manner, with the minimum of temperature and the maximum of mortality. This rule is also, like other rules, liable to exception; but when such exceptions occur, it will usually be found that the temperature, or the mortality, has remained at nearly the same point during two or three months. In such instances, it manifestly gives a false importance to one particular month over its neighbour, if it be denominated the minimum month, because it had one, two, or three degrees less temperature. Such is the relation between mortality and temperature; and after making every allowance for exceptional cases, we cannot but be struck with the regular and almost constant apposition upon the diagram of the two lines of temperature and mortality."

He also observed the curious fact that—

"The waves of the greatest intensity in the series of years referred to (1847 to 1853), occurred at intervals of two years, and were succeeded by a marked rapid and extreme subsidence in mortality during the summer and early autumn months, and did not again approach to the same intensity during the succeeding years. Thus, in 1849, 1851, and 1853, the highest average weekly mortality in one month, was 76·6, 74·4, and 74·5, respectively, whilst in the alternate years, 1848, 1850, and 1852, the like highest average was only 47·6, 51·2, and 52·. In the latter part of the former years, however, there was not that uniformity of opposition of the lines of mortality and temperature which constitutes the rule, but, on the contrary, a disposition was manifested to pursue a parallel course. These facts may tend to prove, that a severe outbreak of the disease is followed by diminished intensity of mortality, and that, to a certain degree, in spite of the action of causes which, under other circumstances, would have heightened the mortality." "At the close of each alternate year of accession, the intensity of mortality seemed rather to move in advance than in the rear of the subsidence of the temperature, in opposition to the fact just noticed in relation to the years of intensity; for, in November of the years 1848, 1850, and 1852, the mortality

suddenly increased, whilst the temperature yet remained at a tolerable height, viz., 45°." The line separating high and low mortality was between 45° and 48°.

Now comes the most laborious part of the investigation. An exception might readily be taken to the foregoing deductions, on the ground that the increase or decrease of the mortality from hooping-cough might correspond, more or less minutely, with the general mortality, or the mortality from the allied pectoral, zymotic, and nervous diseases; and in order to meet it he has computed the mean weekly average of monthly mortality, from all these causes, for the years above mentioned; and then in order to deduce a correct average he has condensed the returns of all these years into one, which thus shows the true average weekly temperature, and mortality from hooping-cough and bronchitis. These are given in tables and diagrams, which have the further merit of being applicable to many other investigations.

In reference to the *general mortality*—"It is quite clear that the general direction of this line is directly opposed to that of temperature—the highest mortality occurring at the season of lowest temperature, or winter, and the lowest mortality at the period of highest temperature, or summer. The highest mortality is observed about January, but varying from December to March, and in 1852, was so late as May, whilst the lowest mortality occurs almost invariably in June and July. In the cholera year of 1849, and in that alone, the lowest mortality was observed so late as November—that is, after the epidemic had subsided—and may naturally be attributed to the lack of subjects of fatal disease. The most healthy period of the year is from April to November, except in such years as experience the recurrence of fatal epidemic diseases. It should also be remarked, that, for the most part, the most fatal seasons in a series of years, are such as have the lowest temperature, as was the case in the winters of 1847-8 and 1852-3; whilst, on the other hand, the periods which experienced the lowest mortality in a series of years, as 1848 and 1850, were marked with the highest degree of temperature. The months of highest temperature and lowest mortality are not usually the same, but, as in 1849, the latter is a month later than the former. Thus it was particularly the case when the temperature had somewhat suddenly increased; for when the temperature throughout the winter had remained somewhat high and stationary for some months, as in 1850-1, or when it had increased considerably in March and April, as in 1847, the monthly lowest mortality was in advance of that of highest temperature. In the latter case, it would seem that the long-continued high temperature became, beyond a certain doubt, a cause of mortality. On contrasting this statement respecting the general mortality with that of hooping-cough, several disparities will be observed sufficient to show that the cause of mortality from the latter disease is not identical with that of the general mortality."

"In the *zymotic class* the lowest mortality is observed to correspond with the low temperature, and therefore with the beginning and the close of the year; whilst its highest mortality is observed in August or September, and therefore corresponds with the period of considerable,

but not of the highest temperature. In no instance does its acme precede that of temperature, but it either corresponds with it, as in the cholera epidemic of 1849, or, as is more customary, immediately succeeds it. Its progress appears to be in cycles, having its origin or lowest point immediately after a severe outbreak of the disease, and thence remaining stationary for a period, but ultimately increasing in mortality by slow increments, until it again attains its maximum. There has been, as yet, no such yearly zymotic mortality since 1849, as was observed in the years immediately preceding 1849, but there has been a gradual increment since 1850. In all these various points, this great class differs from hooping-cough, and in its essential character is directly opposed to it. Indeed, there is not an instance during the seven years in which the lines of alternate increase and decrease of hooping-cough are not directly opposed to those of the great zymotic class; whilst, on the contrary, in almost all cases the zymotic lines and the lines of temperature tend to the same direction. This is a strong argument against the essential affinity between mortal cases of hooping-cough and the class under consideration."

"Directly opposed to the zymotic class is that of *pectoral affections*, for the lines of this class are in opposed waves to that of temperature, and in marked correspondence with those of hooping-cough. The highest point of mortality is almost invariably met with in January, and corresponds accurately with that of the lowest temperature. In this latter respect the pectoral class differs from others, hooping-cough included, for its mortality keeps nearly even pace with the temperature. This is very strikingly manifested upon the diagram. Its lowest mortality, too, is observed at the very months which have the highest temperature of the season, and thence remains nearly stationary during two or more months, or has a gradual tendency to increase. The months intervening between April and November, or December, are the least infected with this class of diseases, and in this respect, this class corresponds with the general mortality. The only noticeable distinction to be made between the lines of mortality from hooping-cough and chest diseases is, that whilst both invariably take the like direction, the former follows the latter in descending, and precedes the latter in ascending. The great similarity between hooping-cough and chest diseases, contrasted with the dissimilarity between the former and zymotic affections, cannot fail to induce us to regard them as most closely allied, and may almost suffice to induce us to inquire if they are not, in their morality, the same disease."

"The third great class of diseases, or the *nervous*, offers but unsatisfactory evidences of its affinity to hooping-cough, and that, perhaps, from the fact just alluded to, viz., that whatever hooping-cough may be, it is not usually mortal. The diagram shows a remarkable uniformity and narrowness of limit in the range of this class of disease through each year, and through a series of years. The line scarcely, if ever, has a greater range than 50 cases, and throughout the whole year does not extend through one half that amount. It can, therefore, scarcely be influenced by the change of seasons, and, consequently, can offer but little affinity to hooping-cough, the general mortality, zymotic, or chest affections. The highest point, little varied as that may be, appears to be

during the cold season, and its lowest during the middle months of the year."

On a review of the investigations as to relationship between the mortality from hooping-cough and that from the class of diseases just mentioned, he affirms :

"That the lines of hooping-cough do not precisely correspond with those of the general mortality ; that they are directly opposed to those of the zymotic class ; that they are greatly in accord with those of chest diseases ; and, lastly, that they have but little evident relation with those of nervous diseases. Thus we infer, that hooping-cough is a disease apart from those affections, and that any deductions made from its returns, cannot be weakened by any supposed resemblance between it and these classes of diseases. Further, we may affirm that mortal cases of hooping-cough disprove any alliance between it and zymotic disease, leave it in doubt in reference to nervous diseases, and offer much support to an alliance with chest affections."

We have not space to enter into an analysis of the diagram exhibiting the weekly temperature and mortality of the seven years, condensed into one, but we advise our readers to procure the 'Transactions' and study the diagrams for themselves. The author, throughout the essay, has carefully discriminated between mere numbers of deaths, and the true ratio which they bear to the population living at the various ages alluded to, and between the non-mortal tendency of hooping-cough itself, and the fatality of its complications, and concludes that we are still perfectly ignorant of the essential nature of the disease. He also shows the advantage which would result from a collection of the vital statistics of disease, with the same degree of correctness, even, as that which has been attained in reference to mortality returns.

*A Manual of Pathological Anatomy.* By C. HANDFIELD JONES, M.B., F.R.S., Fellow of the Royal College of Physicians, Assistant-Physician to, and Lecturer on Physiology at, St. Mary's Hospital ; and EDWARD H. SIEVEKING, M.D., Fellow of the Royal College of Physicians, Assistant-Physician to, and Lecturer on Materia Medica at, St. Mary's Hospital.

The increasing attention to pathological studies, which is unquestionably the leading characteristic of the English school of medicine at the present time, has long rendered a Manual of Pathology an urgent want, and we are not a little glad, therefore, to have this want supplied, and to have it supplied as it is in the present instance. We are satisfied, also, that this feeling will be general, for the two names which are on the title-page, are of themselves a guarantee that the work in question will contain a due exposition of all that is taught in the foreign as well as in the British schools of Pathology,—for Dr. Sieveking is already well known as the translator of the invaluable works of Rokitansky ; and Dr. Handfield Jones by several excellent and laborious investigations on various kindred subjects.

In this work, the authors tell us that they " have desired to lay before

their professional brethren an outline of what is known in the domain of Pathological Anatomy." "They have sought to place before the reader a summary of ascertained facts, together with the opinions of the most eminent pathologists of this and other countries." We have no hesitation in saying that this object has been most satisfactorily attained, and the reader will quickly perceive that the best fruits have been selected from the harvest gathered by other labourers in this wide and interesting field. Original research, and careful investigation is also apparent in every chapter, and thus the work is impressed with a far higher character than might be considered essential to a manual of this description.

In a work of this kind, where everything is touched upon, it is impossible to do more than give a few hints and illustrations as to the character of the contents. We begin at once, therefore, with a quotation in illustration of the *tone* of the work :

"Derangements of nutrition and secretion certainly constitute primary elements of disease. Of the former, we shall speak particularly when we describe the various degenerations that affect the different organs. The latter will be considered in detail, under the head of the several secreting organs and their respective products. We shall now only offer a few general remarks on those derangements and their effects. Nutrition and secretion are evidently in great measure processes of identical nature. The chief difference is, that in the latter a considerable part of the nutrient supply is conveyed out of the organ by tubular channels, more or less altered from the form in which it exuded from the blood-vessels. The processes of secretion in the different instances presented by the system are not all exactly alike, the pulmonary secretion, and the urinary in part, seem to pre-exist ready-formed in the blood; the biliary and the gastric, as well as the seminal, must be formed in their respective glands. It seems probable, however, that in all cases an appropriate blastema is requisite for the due performance of the function of the organ, and that this contains either the secretion ready-formed, or principles which are in course of change, or ready to change into it. Part of the secreting process is therefore, accomplished in the blood, part in the several glandular organs; and the proportion which these bear to each other varies in different instances, and, perhaps, to some extent in the same. In nutrition, there seems scarce any reason to believe that the tissues produce any very considerable change on the blastema supplied to them, the sarcous elements of muscle are but slight modifications of albumen, the bones receive phosphate of lime ready-formed in the blood, the nervous matter is chiefly a compound of oil and albumen, the various pigments are probably modifications of that of the blood-globules; and even those which depart most widely from the composition of the blood, the various gelatine-yielding tissues, may fairly be regarded as having no very distant connexion with the proteine compounds. Now it is a point of prime importance to remark, that in both the nutritive and secretive processes, the failure or imperfect performance of the function in any one instance produces an injurious effect on the circulating blood. For the nutrition of a part does not imply merely the withdrawing of a certain amount of

liq. sanguinis, and its appropriation to that part, but the separation of a fluid differing *qualitatively* more or less from the general current, in consequence of which, certain elements are retained in, and become, therefore, more abundant in the blood.

" Now, if the proper selection of material does not take place in the maintenance and repair of different tissues, it is manifest that the composition of the blood must be altered. Again, nutrition involves the decay of tissues, and the reabsorption into the blood of their effete parts; from which it is clear that, on the due performance of what Dr. Prout calls secondary destructive assimilation, the healthy condition of the blood is in part dependent. No doubt there are physiological limits within which the nutrition of different parts may vary; but if these are exceeded, disorder, first of the blood, and, subsequently, of other parts, must ensue. It is difficult to point out positive examples of disease arising from such causes, but it seems right to refer to them, as they may probably lie at the bottom of many obscure and ill-defined morbid states. With respect to the secretive processes, we have familiar instances of their disorder producing injurious effects on the blood, and through it upon other parts. If the liver become sluggish in its action, and bile is not properly excreted, the countenance betrays by its tinge the unnatural state of the blood, and the loss of appetite and headache testify that the stomach and the brain are secondarily affected. If the texture of the kidney be spoiled, and the secretion of urine in consequence be seriously interfered with, the urea is retained in the blood, and this fluid becomes thus so altered in its composition, that the red globules are no longer properly developed, and the patient presents a sallow, anæmic aspect, while at the same time inflammations are exceedingly apt to arise in various parts, owing to the disordered nutrition induced by the unhealthy blood. If the secretion of a gland be greatly increased, though of perfectly natural composition in itself, this increased outflow becomes a drain upon the system, and thus a cause of debility. Diabetes may be referred to in illustration of this, as although an unnatural substance, sugar is added to the urine, yet its own composition is not materially altered. Another very striking instance is afforded by cases of asthenia lactantium, the continued drain from the mammary glands exhausting the frame and all the vital energies in a fearful manner. Secretions excessive in quantity, and more or less unnatural, also produce great debility; of this we have frequent examples in profuse diarrhœa or leucorrhœa. The material of these fluids is of course so much withdrawn from the circulation.

" Unnatural secretions often produce irritation and disturbance of parts with which they come into contact. Thus acrid bile produces severe diarrhœa, diarrhœal and leucorrhœal discharges often excoriate the integument around their respective outlets, highly acid urine causes a sensation of scalding in the urethra, or even may give rise to attacks resembling nephritic colic. Deficient quantity and disordered quality of a secretion often go together; thus scanty urine is generally morbid, in some other respect; the opposite condition, however, is quite as frequent, and the secretion, though plentiful, is very unnatural. Of the latter condition we have examples in debili-

tated persons who pass large quantities of pale, alkaline urine, containing triple phosphate. The former state is constantly observed in the commencement of various febrile affections. The nervous system has a considerable influence over the various secretions. Great agitation has been known to cause a mother's milk to assume a poisonous quality, or such, at least, as to occasion in a few minutes the death of the infant. A similar cause has produced jaundice rapidly in some persons, and in others, a bilious diarrhoea. After an hysterical fit, a large flow of pale, almost aqueous, urine is passed. A flow of tears is the natural effect of the passion of grief, and a flow of saliva of the expectation of a meal. Appetite is immediately destroyed, i. e., the secretion of gastric juice arrested, by sudden distressing intelligence. The lessons which these facts convey, can scarcely be too much appreciated. They show us that we must never forget the wonderful but intimate connexion that exists between our material and immaterial part, and that it is fruitless to strive against the incessant influence of a down-weighed or wounded spirit by doses of drugs. These cannot 'cleanse the stuff'd bosom of that perilous stuff which weighs upon the heart.' Instances are occasionally met with, in which some secretion is manifestly unnatural, and yet there is no constitutional disturbance. It appears as if some morbid matter were carried off by this channel, the removal of which left the system in health. Of this kind are cases of fetid secretion from the feet, some of oxalate of lime in the urine, and perhaps the naturally foul breath which is habitual to some persons. It is very probable that several disorders, among which may be particularly mentioned gout and rheumatism, essentially depend, partly on a mal-performance of that part of the function of secretion which takes place in the blood, and partly upon defective elimination; so that various effete matters, not undergoing those oxidizing changes which they normally should, and being instead, partly converted into other more noxious and unnatural principles, circulate in the blood for some time, producing general uneasiness and mal-aise, and, sooner or later, break out in an eruption of morbid matter, by the skin, or some other emunctory. The gouty paroxysm, with its foregoing ill-health, is the *παραδειγμα* of this condition. It is also illustrated in rheumatism, and more or less in other morbid states of the system, to which the appropriate name of excrementitious plethora has been applied. Dr. Williams observes, that he has often found purpura connected with hepatic congestion and imperfect excretion of bile, and most effectually removed by remedies which promote the restoration of the proper secretion. It is not unfrequently seen that the sudden arrest of a secretion, though it be a morbid one, which has continued long, and produced a considerable drain on the system, is attended with serious, nay, even fatal effects. These probably depend on the establishment of a condition of plethora, not indeed, such as under ordinary circumstances would deserve the name, but which is felt as such by the debilitated, and perhaps sensitive, system. When this state exists, local congestions are very apt to occur, and may end in fatal extravasation of blood in the brain, if that be the part affected. If the natural secretion of a gland be in any way greatly diminished, a state of congestion of

the organ is very apt to follow ; the converse occurrence also is often observed, and it is not by any means always to be discerned clearly which of the two is to be regarded as the cause, and which as the effect. The temperature of a part whose natural secretion is arrested, is almost always higher than natural. No more marked instance can be mentioned of this than the skin in many fevers. Remedial means, which diminish the quantity of blood in a congested part, often restore or increase the secretion which had been interrupted ; and, conformably to this, we often observe in cases of profuse abnormal secretion, that the surface from which the flux takes place, instead of being red with blood, is unnaturally pale ; the contents of the vessels seem to be drained away as fast as they arrive ; so that one is almost reminded of the old theory of exhalent arteries with open mouths."

The chapter on the " *morbid states of the blood* " is undoubtedly one of the best in the volume, and contains a most complete resumé of the various observations and theories connected with this vast and interesting subject. The views, also, of all the leading modern authorities on the subject of inflammation, and its allied processes, are critically examined with an ability highly creditable to Mr. Handfield Jones, and the general account given very fairly represents the present state of our knowledge of these subjects.

The description of new formations and tumours, in chapter iv, is a judicious selection from the highest authorities on these subjects.

The pathological anatomy of the nervous system ; the organs of circulation, and organs of respiration—is from the pen of Dr. Sieveking, and the excellent chapters on these subjects not only bear the evidence of extensive research, but like the other portions written by the same author, are accompanied by numerous references, in foot-notes, to the works from which the subject-matter of the text is taken. In this respect they contrast with the sections written by Dr. H. Jones, to whom we would venture to suggest not only the propriety, but the necessity of following the plan of his colleague even to a greater extent, when the book shall reach its second edition, an event which may confidently be anticipated at no distant period.

The following observations on the still obscure subject of the acute diseases affecting the arterial system, may be selected in illustration of the preceding remarks :

" We have seen that it is a subject of debate whether the middle and lining coats of the arteries are subject to inflammation ; as they possess no blood-vessels of their own, we can scarcely assume them to present symptoms of the primary phenomena of inflammation ; but that they may be secondarily involved in inflammatory affections proceeding from the cellular sheath cannot be doubted. A most interesting case of acute arteritis in a previously healthy individual, a gentleman, aged twenty-nine, is recorded by Dr. Romberg,\* where sudden pain manifested itself in the right femoral artery, affecting the distribution of the artery in the limb, then, mounting up to the aorta, passed to the left iliac and its

\* Manual of Nervous Diseases, Sydenham Society's Edition, vol. ii, p. 238. Since the above was written a very similar case has occurred under the care of Dr. Sibson, at St. Mary's Hospital.

branches. Endocarditis followed, and inflammation of the arteries in the left upper extremity ; the entire illness lasted from the 20th October, 1844, to the 5th December of the same year. The post-mortem was performed by Professor Froriep thirty hours after death, and the following appearances were found in the arteries :—A pale red, firm clot, was discovered in the abdominal aorta close to its division ; it blocked up the artery, and adhered closely to its lining membrane, which was smooth and not reddened. This coagulum extended into the two iliac arteries, gradually became thinner, and terminated in a point. At the point at which the left external iliac is given off, there was an equally firm but lighter coloured exudation. The left external iliac as far as Poupart's ligament, was filled up with a thinner coagulum containing much cruor ; it could be easily detached from the lining membrane, which was thickened, reddened and friable, and could be easily detached from the fibrous coat. The middle and external coats were also thicker and more friable than in the normal state. Between the membranes there was an exudation of lymph, which was also distinctly perceptible in the cellular tissue surrounding the arteries. The latter was particularly inflamed under Poupart's ligament, and the neighbouring lymphatic glands were tumefied and reddened. The crural artery contained a firm coagulum at the point at which the profunda is given off, which could only be detached with difficulty from the dark red lining membrane, and which extended into the profunda. Further on the crural artery was filled with a grumous coagulum, and the lining membrane was villous, rough, and much reddened. Then came a free spot, but at the part where it passes through the adductor, it was again closed by a firm coagulum, and the corresponding lining membrane was much reddened, softened, and pulpy. The tissues here were in a state of gangrene, the right internal iliac was unaffected. A firm, pale clot, strongly adhering to the lining coat, was discovered in the external iliac close to the point at which it is given off by the common iliac artery. The crural artery of the same side was narrow and contracted ; the lining membrane thrown into folds, containing a solid plug at the site of the profunda ; the lining and other membranes being much reddened and thickened. A similar coagulum was found in the left brachial artery at its division, extending into the radial and ulnar. The heart was hypertrophic, and a roundish excrescence was found attached to the mitral valve, which was proved by Professor Müller to consist of fibroid tissue, and to be subjacent to the endocardium. The same author confirmed the fact that a thin layer of plastic exudation matter was found on the arterial coagula, which at many points also invested the lining membrane. For further particulars, and for the author's views on the case, we must refer the reader to Dr. Romberg's work. We have extracted so much of it as refers to the subject under consideration, and because it offers a combination of all those phenomena which writers attribute to acute arteritis, and which are found in the inflammations of other parts of the system as a result of a peculiar derangement of the circulating fluid. In this respect the case quoted might form an appropriate text for the development of the whole theory of the phlogistic process. Bizot\* describes as the result of acute inflammation of the arteries, an albuminous exudation of greater or less thickness, of the

\* *Mémoires de la Société d'Observation*, vol. i, p. 311.

consistency of jelly, transparent, smooth, sometimes rose-coloured, at others colourless, covering the lining membrane. It is occasionally so transparent as to escape attention unless very carefully examined. It occurs in patches, solitary or numerous, and diminishes the calibre of the vessel; in one case Bizot saw it entirely plugging up the anterior tibial artery. In the aorta this exudation is formed mostly at the orifice of the arteries arising from the arch, at the mouth of the cœliac, mesenteric, and renal arteries, and at its posterior surface, so as to block up the mouths of the intercostal arteries. An instance of acute inflammation of the aorta is recorded by Mr. Hodgson;\* it is to this effect:—A man was seized with violent pneumonia which proved fatal in five days; the cadaveric inspection exhibited all the thoracic viscera in the highest degree of acute inflammation; the aorta was also involved; its internal coat being of a deep red colour, and a considerable portion of lymph being effused into the cavity. The effused lymph was very intimately connected with the internal coat of the vessel, and a plug of it had extended into the left subclavian artery, and nearly obliterated the cavity of that vessel. In reference to this subject some experiments performed by Gendrin† are of considerable importance in demonstrating the capability of the coats of the artery giving rise to inflammatory exudation in the strict sense of the word. He found that on injecting an irritant substance into a portion of an artery included between two ligatures, and deprived of blood, a deposit of coagulable lymph took place, which arrested the internal coat and at last formed a plug filling up the channel. The lining membrane at first was only slightly discoloured, and through it a network of injected capillaries might be distinguished on the adherent surface of this tunic to the middle coat. When the inflammation has advanced this was no longer seen, the external coat having become pulpy, rugous, and dull. The suppuration that followed did always coincide with ulceration of the inner coat; the pus, however, was not necessarily deposited in the vessel, but infiltrated into the cellular sheath, forming small abscesses. We may reasonably conclude that in arteritis the morbid products are derived from the *vasa vasorum* as well as from the contained blood. To sum up:—The symptoms of acute inflammation of the arteries are more or less extensive, reddening, softening, thickening, and detachment of the lining coat, which exhibits an opaque, plicated condition; the middle coat becomes hypertrophied and friable, and in the external coat we find distinct signs of congestion and exudation. Within the vessel a coagulation of fibrine and the deposit of coagulable lymph from the blood is seen, and as secondary effects we have to deal with ulceration, laceration of the coats, haemorrhage, and gangrene of the distal parts of the system.

“From the time of J. P. Frank,‡ who first drew attention to the subject of arterial inflammation, to the most recent periods, various pathological conditions have been attributed to it; the acute forms have been repeatedly asserted to be the cause of trismus neonatorum, a disease which at present is one of very rare occurrence among ourselves.

\* *On the Arteries*, p. 5.

† *Histoire Anatomique des Inflammations*, vol. ii, p. 13.

‡ *De curandis Hominum Morbis*, vol. ii, p. 363.

Dr. West denies this cause, but Dr. Collis,\* and recently Dr. Schöller,† satisfied themselves of its real existence. The latter found inflammation of the umbilical arteries in fifteen out of eighteen cases of trismus neonatorum. There was tumefaction of the umbilicus, reddening and congestion on the external surface; the channel contained pus, and the lining membrane was eroded and invested with an albuminous exudation. Dr. Schöller has carefully examined these parts in all other new born children who died shortly after birth, and has never succeeded in discovering similar lesions. It does not appear that traumatic tetanus in the adult, to which we may compare trismus neonatorum, is accompanied by similar lesions.

The formation of a coagulum in the artery is a well-known physiological effect of the laceration by mechanical or other means, of the lining membrane, and the atrophy or gangrene of the part nourished by the artery is an illustration of the effects following similar obliteration of the channel from disease. We have alluded to the cerebral affections resulting from an arrest in the arterial circulation; senile gangrene is another morbid condition which has been ascribed, by Dupuytren and Cruveilhier, to arteritis. In this there is a marked distinction between inflammation of the two sets of vessels; that phlebitis induces secondary deposits and oedema, while these occurrences are not met with in arteritis. It is even doubted whether the latter ever gives rise to suppuration, but independently of the cases of suppuration in the umbilical artery quoted from Dr. Schöller, Andral and Hodgson's‡ authority§ determine the question affirmatively, for these authors state that actual idiopathic suppuration does occur in the artery.

"The spontaneous coagulation of the blood in the arteries is not, however, the result of inflammatory action only. It may occur in consequence of a low ataxic condition, which does not permit the vital powers to resist the chemical tendencies, that normally ought not to come into play until after death. This spontaneous coagulation is especially met with in the pulmonary arteries, where the occurrence of the inflammatory symptoms has, as yet, not been met with. Mr. Paget|| in describing a case of the kind says, that nearly all the branches beyond the primary divisions of the pulmonary artery contained clots of blood, which from a comparison with those found in tied arteries, he judged to be from three to ten days old. The clots did not commonly extend continuously from any large branch of the pulmonary artery into many of its successively subordinate divisions, no branch of the pulmonary artery less than half a line in diameter appeared to contain any of these clots, and the pulmonary veins were healthy and empty. The case under consideration proves that a large portion of the pulmonary circulation may be arrested for a considerable period without immediate danger to life, a circumstance explained by Mr. Paget by assuming a retardation of the circulation in the systemic vessels in order to allow the quantity traversing them in a given time to be equal to the reduced quantity which in the same time tra-

\* Dublin Hospital Reports, vol. i, p. 285.

† Neue Zeitschrift für Geburtshilfe, herausgegeben von Busch, d'Outrepoint und Ritgen, vol. v, p. 477.

‡ Anat. Pathologique, tom. ii, p. 379.

§ On the Arteries, p. 10.

|| See Mr. Paget on Obstructions in the Pulmonary Arteries, ' Medico-Chirurgical Transact., vol. xxviii, p. 533.

verses the lungs. In order to keep up the necessary balance, the systemic circulation is as much less rapid than the remaining pulmonary circulation is more rapid, than before the obstruction took place.

"The formation of a coagulum in the artery does not necessarily block up the entire passage, but may leave a central opening by which the circulation yet continues to be carried on. But after the formation of the clot, it in its turn undergoes various changes; it may become absorbed or it softens or breaks up into granular matter, and is carried into the capillary circulation, or it is capable of organization, and we then find in it a network of fine blood-vessels. The last point serves to elucidate the observations of the passage of an artery occasionally seen in old coagula formed after the application of a ligature. Lobstein, as we are informed by Hasse, met with an arterial vessel of the calibre of the stylo-mastoid artery running lengthwise through the femoral artery obliterated two years previously by tying. Blandin and Barth have met with analogous instances to which may be added those cases in which, after the complete obliteration of arteries by ligature, new vessels have been found shooting from their extremities. The general infection of the blood from breaking up of arterial coagula, is a very rare occurrence; a circumstance which establishes a marked distinction between arterial and venous disease; it is referred by Rokitansky to the greater susceptibility of the arterial blood for taking up inflammatory products, which speedily gives rise to coagulation and obturation of the vessel, and to the circumstance that their reaction in the arterial current, being exhausted towards the capillaries in ordinary cases, hinders the general infection of the blood beyond the limits of those vessels."

The pathological anatomy of the alimentary canal is described by Dr. H. Jones with his usual clearness and accuracy. His own labours in the investigation of the morbid conditions of the stomach, more particularly in reference to the processes of atrophy and glandular degeneration, contribute much to the interest of this section; but, as they are especially noticed in another portion of the present volume, they need not be further alluded to. In the chapters on the pathological anatomy of the joints, we have a very good summary of the labours of Sir. B. Brodie, Key, Goodsir, Redfern, &c. The history of the structural changes occurring in that obscure affection described as "chronic rheumatic arthritis," is taken from Mr. W. Adams's communication on this subject to the Pathological Society of London, also noticed in another part of the present volume. We have remarked, with much pleasure, the free use made throughout this manual of the invaluable accumulation of facts contained in the transactions of this young, but important and rapidly increasing, society; and we would also observe, as a creditable feature of the manual, that full justice has been done to the labours of English pathologists, whilst those of our continental brethren have been equally appreciated.

We can confidently recommend this work to the profession, in the full assurance that it will contribute much to the diffusion of accurate pathological knowledge. In concluding our notice, we sincerely congratulate the profession on having a publisher as intimately acquainted with its wants, and as enterprising as Mr. Churchill, to whom too much praise cannot be given for adding this manual to his valuable series.

## II.

### REPORT ON THE PROGRESS OF SURGERY.

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1. *Two Lectures on the treatment of Aneurism by compression, delivered at the Royal College of Surgeons.* By F. C. SKEY, F.R.S., Professor of Surgery to the College, &c. ('Medical Times and Gazette,' Sept. 23 and 30, 1854.)
2. *The treatment of Aneurism by compression.* By JOLIFFE TUFNELL, Esq. ('Medical Times and Gazette,' Oct. 14, 1854.)

1. Mr. Skey's lectures were delivered at the College of Surgeons during the past session. In them, the lecturer reviews the whole subject, and decides unhesitatingly in favour of the treatment by compression. The opinions expressed differ in no point from those which are entertained in Dublin, with this single exception, that Mr. Skey is not so completely satisfied as to the superior advantages of elastic pressure, as compared with ordinary modes of pressure.

In Mr. Skey's opinion, the statistics of the subject leave no room for hesitation, for all the evidence is on one side.

"From three unexceptionable sources of information," he writes, "we find that in the treatment of external aneurism by ligature nearly 25 per cent. prove fatal. The proportion certainly appears larger than I had myself calculated on; but if it be granted that these statistics form even an approach to the truth, the proportion of deaths is yet so great as to afford but a frail support to the advocates of the ligature.

"On the other hand, we have a list of 39 cases, of which 9 are shown to be either the subjects of other and necessarily fatal disease, or of some peculiarity in their cases or constitution which would, with the exception of 2, disqualify them for the ligature. Of the remaining 30, in which alone the treatment by compression was fully carried out, every case was cured. In 37 cases treated in America, 35 were cured. 'Compression,' says Dr. Bellingham, 'has proved eminently successful in Dublin as a mode of treating popliteal and femoral aneurism, and has so completely superseded the ligature, that the latter has not been resorted to for several years past in a single case either in hospital or in private practice.' Can there be a doubt on the mind of any rational man what will constitute the largely-predominant practice of the profession hereafter? In considering the causes of equivocal success that have attended the introduction of the treatment into England and Scotland, which includes some twenty-five cases, we are driven to the alternative either of inferring some difference in the case or in the treatment. It cannot be said that the Dublin cases are selected; for, if so, it would appear in the evidence;

and, besides which, 39 cases of aneurism, almost exclusively popliteal and femoral, within nine years, is rather a large proportion of such population as would supply the Dublin hospitals with this particular form of disease. If the cases were selected cases, the supply of Irish aneurism must indeed be immense. It is not, I presume, too much to infer identity of disease between these published cases and such as occur to human nature throughout the world. If so, we must look to the treatment as constituting the remarkable difference in the results. We must follow our leaders more implicitly. We must adopt their practice, and imitate, with exactness, their details of management. The Dublin surgeons constitute an important section of the medical community. They are men of high education, and their schools are not surpassed, for strictness of intellectual discipline, throughout the world. Perhaps it is happy for English surgery that we do not succumb to rivals of inferior calibre. It is our duty, as it is our interest, to lay aside, if it exist at all, all rivalry, all jealously, to confess our inferiority, and, by pursuing a similar career, to reach the same eminence which has placed them, in this department of surgery, so much in advance of other schools. I feel justified in these remarks by the knowledge that this onward step in conservative surgery has been assailed with suspicion, with detraction, and even with abuse. Notwithstanding these temporary obstructions, which vulgar and unscrupulous men have not hesitated to resort to, we may look forward with the utmost certainty to the treatment of aneurism by compression as the future law of our profession."

2. Mr. Tufnell's communication, which is elicited by Mr. Skey's lectures, furnishes some valuable information, and, among other things, it sets forth very clearly the superior advantages of elastic pressure over any other kind of pressure. Mr. Tufnell proceeds:

"The pressure of the pad, after a while, causes a degree of uneasiness, which, long continued, amounts to pain. To relieve this, the muscles of the part contract, and in doing so raise the integuments against the pad; this alteration of position of the fibre, slight as it may seem, being sufficient to afford relief. In this relief to the compressed muscular fibre does the whole secret lie. None such is afforded by the screw; when once applied, the whole limb lies fixed, that flexion or extension is forbidden of which the elastic pressure admits; and, consequently, a degree of pain and constitutional disturbance often follows, which, in an irritable patient, may mar the whole results.

"I am not speaking from theory, I appeal to experience for confirmation of my views, and I find it ably replying. I quote, as proof, from the writing of Dr. Hutton. He says, 'We could effect little or nothing with the screw clamp, from the patient's impatience of the pressure; but he was able to bear the elastic instrument of Dr. Carte for six hours, although the compression was equally complete, and pulsation prevented. In this case, after the application of the instrument, the pulsation ceased, and never after returned.'

"In another case, Dr. Hutton remarks:—'The patient sustained the compression during seven and a-half successive hours, never allowing pulsation to return to the tumour. At the end of this time he

removed the instrument ; pulsation had wholly ceased ; the aneurismal tumour became solid, and absorption soon commenced. I feel confident that this patient could not have borne the application of the screw clamp for so long a time." These are tests of the efficiency of elastic pressure which, I think, cannot be gainsaid. These are the results of its working in the treatment of disease in Dublin. An easy mode, however, of establishing its superiority exists, which any member of the profession who doubts can test upon himself. Let him place a screw clamp upon the femoral artery at Scarpa's space, or on any other portion of the thigh, so as to stop pulsation in the vessel below. Let him then try to walk across the room ; he will find himself, as it were, riveted to the spot, totally unable to move. Let him next substitute for the clamp, a circular compressor of Dr. Carte, and equally control circulation through the limb, and then try his powers of progression. Instead of inability to move, he will discover that he can proceed freely, and walk with ease, the piston of the pad rising and falling to each step as the muscles contract and extend, keeping still the artery compressed, and allowing no blood to pass through the point of arrest."

Mr. Tufnell also enters at some length into the statistics of the question, and these we give as serving to render still more indubitable the advantages of the treatment by compression, for they show that the cases reported have not been picked cases. Mr. Tufnell writes :

" Now, to enable the profession to judge of the accuracy of the statement I here make, I beg to offer to their notice the statistics of this disease as treated in Dublin by compression, from its revival in 1842, down to the present time "

The Table gives the particulars of 47 cases of aneurism treated by compression, in Dublin, from Oct. 1842, to September 1854 ; 6 were treated at Richmond Hospital ; 9 at Steeven's ; 6 at St. Vincent's ; 3 at Jervis Street ; 7 at the patient's residences ; 3 at Meath Hospital ; 5 at the Royal Military Infirmary ; 1 at Adelaide Hospital ; 3 at the City of Dublin Hospital ; 2 at Mercer's Hospital ; 1 at the Artillery Hospital ; and in 1 the place of treatment is not stated. Out of these 47 cases, there were 36 cures by compression treatment. In 2 cases, the patients were females,—1, 22 years of age, duration of compression 20 days ; the other, 40, duration of compression 9 days ; the latter right brachial, and the former right femoral—both cured. Of the 45 males, 1 died of disease of the heart, duration of compression 20 days ; 1 of erysipelas ; 1 of disease of heart and lungs ; and 1 is reported as unsuccessful. Of the males, 15 were of right popliteal aneurism ; 15 of left ; and in 4 not stated ; 4 of right femoral ; and 3 of left ; 1 of right brachial ; and 1 brachial, side not specified ; 1 of left radial ; and 1 of right ulnar traumatic. In 7 cases they were the same patients as had been previously treated.

Most of the cases are reported in the 'Dublin Medical Press,' the 'Dublin Journal,' the 'British Association Reports,' the 'Dublin Quarterly Journal,' the 'Dublin Hospital Gazette,' and 4 in 'Tufnell on Compression,' pp. 125, 128.

Under Dr. Hutton . . . . .	5	Under Dr. Fox . . . . .	1
" Mr. Cusack . . . . .	7	" Sir P. Crampton . . . . .	1
" Dr. Bellingham . . . . .	5	" Dr. Banon . . . . .	1
" Dr. Harrison . . . . .	1	" Dr. Clayton . . . . .	2
" Dr. Kirby . . . . .	1	" Dr. Read . . . . .	1
" Mr. Porter . . . . .	2	" Dr. Hargrave . . . . .	1
" Mr. O'Ferrall . . . . .	2	" Mr. Tufnell . . . . .	3
" Dr. Macdonnell . . . . .	1	" Dr. Quigley . . . . .	1
" Dr. Humfrey . . . . .	2	" Mr. Colles . . . . .	3
" Dr. O'Brien . . . . .	1	" Mr. Fleming . . . . .	1
" Mr. Smyly . . . . .	1	" Mr. Wilmot . . . . .	2
" Dr. Orr . . . . .	1	" Dr. Jameson . . . . .	1

The ages of the male patients were as follow :

11—20—24—<sup>3</sup>25—26—<sup>3</sup>27—<sup>3</sup>28—<sup>4</sup>29—<sup>5</sup>30—31—<sup>6</sup>32—<sup>2</sup>33—<sup>3</sup>34—  
36—37—38—40—43—44—45—46—48—55. 1 not stated.

The shortest duration of compression was one of 7 hours; the longest 93 days; the several periods were as follow :

<sup>2</sup>2 days—4—5—6—<sup>2</sup>7—8—9—11—12—13—<sup>2</sup>20—<sup>2</sup>21—24—28—30—  
—31—33—37—42—<sup>2</sup>43—53—70—72—93. And 7 hours—10—  
11—16—23—30—33—39. In 8 cases the duration is not stated.

In one case of popliteal aneurism, the ligature was applied, and the patient recovered; in another, of right popliteal, cured by compression, the left femoral had been previously tied for left popliteal aneurism. Interrupted pressure was applied in one case, cured. In a case of right brachial, in which the ligature was applied, there was high bifurcation, and two vessels were secured. In a case of left femoral, and in two of right popliteal, amputation was performed, and recovery took place; in another of left popliteal (male—25), the ligature was applied successfully. Dr. Fleming remarks upon the case, "It was decided that the treatment by compression should be tried, though no sanguine expectation was entertained as to its success, as well from the nature of the aneurism, as from the character of the patient." In a case of left popliteal, cure was effected by manual compression made by the patient's own thumb upon the artery at the groin. In another case in which ligature was applied unsuccessfully, the knee-joint was involved, the aneurism springing from the anterior aspect of the artery. In a case of common right femoral, cured by compression, the sac sprang from the femoral so immediately below Poupart's ligament, that one point only existed where pressure was complete, so as not to admit a drop of blood into the sac. The man was well lowered by croton oil previously.

"In submitting this statement," proceeds Mr. Tufnell, "I would beg emphatically to call attention to one fact—viz., that it contains *every single case* that has occurred in Dublin in which compression has been employed. It has not been compiled (as the statistics of ligature have) from certain published cases only; it includes every case of aneurism where a compressing instrument has been placed upon the limb; and, to show how general has been this treatment, I believe there have been three instances only during this time in which it has not been tried, two being ligatured at once, and amputation resorted to in the

third. The profession, therefore, have here brought before them the practical working of compression in the treatment of aneurism in Dublin, and can judge of the result. It will be seen that the statement embraces a large number of names, some of whom have had only a single opportunity of treating the disease, and yet success in their hands has been equally complete with those having a larger number of cases. The "experience of repetition" is not, therefore, necessary for success. It assuredly is a great advantage to have had practical experience, especially in the management of details; but, the principles of compression once established and understood, *judgment in selection, and watchful care in the management of the cases*, are alone required."

1. *Primary Ulceration of the Intervertebral Fibro-cartilage between the fourth and fifth Lumbar Vertebrae, with lumbar Abscess, but without destructive disease of the Bones.* By W. ADAMS, Assistant Surgeon to the Orthopædic Hospital, ('Pathol. Trans.,' vol. v.)
2. *Ulceration of the Intervertebral Fibro-cartilage, between the tenth and eleventh Dorsal, and the third and fourth Lumbar Vertebrae, with Psoas Abscess, but without destructive disease of the Bones.* By W. ADAMS, ('Pathol. Trans.,' vol. v.)
3. *Primary Ulceration of the Fibro-cartilage of the Symphysis Pubis, and large Abscess in the Sheath of the Rectus Muscle, communicating with the Joint.* By W. ADAMS, (Pathol. Trans.,' vol. v.)
4. *A Critical Examination of a Pathological Specimen of softening of the Intervertebral Cartilages.* By LOUIS BAUER, M.D., ('New York Journal of Medicine,' May, 1854.)

The liability of cartilaginous and fibro-cartilaginous structures to primary disease is a question of much pathological importance, and our knowledge of the subject is imperfect, because opportunities of examining destructive disease of the joints and spine in an early stage, by which alone the nature of the primary affection can be ascertained, are rare. When we examine them after death or amputation, several structures are found to be involved in the disease, and the order in which they have been invaded cannot be satisfactorily determined. The investigation must therefore be conducted either in cases in which the joint, or spinal affection, in an early stage co-exists with some other fatal disease; or in which the local affection, though in an advanced stage, and, perhaps, causing the death of the individual, is found upon examination to be limited to a single structure. In those instances alone can the liability, either special or relative, of the different structures entering into the composition of the joints or spinal column, to the various forms of disease be determined. Several examples of the latter class of cases, occurring in the spinal column, and one in the articulation of the symphysis pubis, have been recently recorded; and we proceed to bring them under the notice of our readers. Three cases are recorded by Mr. Wm. Adams, in the last volume of the 'Transactions of the Pathological Society of London,' and one by Dr. Louis Bauer, of New York, in the 'New York Journal of Medicine' for May, 1854.

The first case reported by Mr. Adams occurred in a sailor, æt. 43, admitted into St. Thomas' Hospital, July 5th, 1853, and who died Nov. 10th, 1853. Some months previous to his admission, he had received a blow on the spine, in the lumbar region, and to this circumstance he traced his illness. An abscess opened in the left lumbar region, and a discharge, at times profuse, continued up to his death, which resulted from gradual exhaustion.

*"Post-mortem examination.—Average conformation. Body emaciated, but not to an extreme degree. Both legs œdematos. In the left lumbar region was an old fistulous opening leading towards the spine.*

*"Both lungs exhibited a large amount of old tuberculous deposit in their apices and upper portions which were deeply puckered and contracted. There was also a small quantity of recent tuberculous deposit scattered through both lungs. Heart healthy.*

*"The liver was slightly enlarged, and presented a tendency to a firm waxy condition. Both kidneys presented, on section, a pale, mottled appearance, and their surfaces were granular; but these organs were not in a very advanced stage of disease. The spleen presented a well-marked waxy appearance; the Malpighian bodies were enlarged, and resembled in appearance small grey translucent miliary tubercles. Stomach and intestines healthy.*

*"The intervertebral fibro-cartilage between the fourth and fifth lumbar vertebræ had entirely disappeared, leaving a chasm corresponding in shape and size exactly to the removed intervertebral substance. The exposed surfaces of the adjacent vertebræ were not carious. A vertical section through the vertebral column showed that the cancellous tissue of the bodies of the fourth and fifth vertebræ had, to some extent, undergone a process of induration; these bones were paler than the other vertebræ, and more compact. In front of the fourth and fifth lumbar vertebræ the external common ligament and fibro-cellular structures were raised and thickened, so as to form, together with the adjacent surfaces of the above-named vertebræ, the sac of an old abscess, from which pus extended on the left side upwards and downwards in the course of the psoas muscle. The external fistulous opening communicated with this cavity."*

In this case, the intervertebral cartilage was the only structure involved in the destructive disease, and it is a good example, though we suspect a very rare one, of the affection being limited to a single intervertebral cartilage, and causing the death of the individual. The abundant secretion of pus, which exhausted the patient, must in this case have been derived from the vascular walls of the fistulous canal, leading from the seat of disease to the external opening. The pale and indurated condition of the cancellous structure of the bodies of the adjacent vertebræ must be regarded as the result of a chronic inflammatory process, under conditions opposed to the invasion of caries. In the second case, in addition to the indurated condition of the cancellous tissue, a considerable quantity of new bone is described as having been thrown out in several places, in the form of bridges, across the intervertebral cartilages, and perforated or irregular cribri-form plate-like processes from the sides of the bodies of the vertebræ, particularly situated at the edges of the great abscess in front of the

spine, where the fibrous structures were still connected with the bodies of the vertebræ, and it was from ossification of the fibrous structures that the new bone appeared to have been formed. The coexistence of these changes in the bodies of the vertebrae, and ossification of the fibrous structures on the surface of the vertebral column, with destructive disease of the intervertebral cartilage, is a point of much interest, which appears to indicate a resisting and reparative process.

We subjoin the particulars of the second case :

"The parts were removed from the body of J. C.—, æt. 41, a labourer, admitted into St. Thomas's Hospital, on the 9th of August, 1853, under Dr. Bennett. He died on the 26th of November, 1853.

"*Post-mortem examination by Dr Bristowe.*—Body emaciated. Lower extremities œdematos. A little below the anterior superior spinous process of the right ileum was an ulcerated opening, whence oozed pus in considerable abundance.

"Heart and lungs generally healthy.

"The peritoneal cavity contained several pints of serum. Liver of large size, and somewhat granular and lobulated on the surface; it was pale, soft, and excessively fatty throughout. Spleen large, its capsule somewhat opaque; its substance firm, pale, and somewhat translucent. Kidneys rather small, pale, and slightly fissured on the surface. Small intestines healthy.

"A fluctuating tumour, about as large as a hen's egg, was observed in the lower part of the right side of the chest, close to the spine, projecting into the pleura. The cellular tissue and fat around the front of the spinal column, from the second or third dorsal to the last lumbar vertebra, were very much indurated and increased in thickness. On cutting through, and partially removing this, the bodies of the vertebræ, from the sixth dorsal to the last lumbar inclusive, were seen to be more or less denuded and bathed in pus, which occupied a long branching cavity between the bones and the indurated tissues. The bodies of the seventh to the eleventh dorsal vertebræ were altogether exposed, as far back as the origins of the transverse processes, and, in two or three of them, the costo-vertebral articulations were laid open, and their ligaments and cartilages destroyed. In the vertebræ below these the exposure was less extensive, some being denuded anteriorly only, others laterally.

"The surfaces of the exposed bones, though quite bare, were not at all destroyed, and, indeed, were somewhat indurated. In several parts, however, the intervertebral substance appeared somewhat eroded, and this was especially the case between the eighth and ninth vertebræ, where it was irregularly destroyed, to the depth of half an inch; it was opposite this part, that the fluctuating tumour, which projected into the pleura, and was merely a sort of diverticulum of the larger abscess, was situated. The anterior common ligament was, of course, in a great measure destroyed, but, where part of it still adhered, as was the case chiefly in the lumbar region, patches of new and firm bone were occasionally found deposited on the surfaces of the vertebræ; this was especially seen on the right side of the first lumbar, where the new bone bounded an oblique groove, in which ran a sinus that was continued along the right psoas muscle to the opening in the groin; this sinus was very narrow, bounded

by indurated tissues, and gave passage to the pus from the front of the vertebral column.

"On making a longitudinal section of the vertebræ, they were found, for the most part, healthy, but opaque and indurated, to the depth of two or three lines anteriorly, where they abutted on the abscess, and also in those parts which bounded diseased intervertebral substance. The posterior half of the intervertebral cartilage, between the tenth and eleventh vertebræ, was destroyed, and the central portion of that between the third and fourth lumbar. No pus was found in the spinal canal, and nothing that could have pressed on, or otherwise injured, the spinal cord, which was healthy."

The case of primary ulceration of the fibro-cartilage of the symphysis pubis, to which we have referred at the beginning of this article, is strictly analogous to these cases of spinal disease.

The case related by Mr. Bauer, a few months subsequent to the above, is a valuable confirmation of the preceding observations by Mr. Adams, and as the disease was in some parts, in a much earlier stage, the structural changes in the cartilages admitted of being carefully traced. It occurred in a youth æt. 21, who suffered for about 18 months from disease of the spine, and died with symptoms of retention of urea in the blood.

"The specimen embraces the five lower thoracic, all the lumbar vertebræ, and the sacrum. On the outside, right and left, there are large cavities between the psoas and quadratus muscles, connected both with a carious ulcer of the spine and the surface. In its passage, the matter had superficially corroded the left transverse process of the third lumbar vertebræ. The left kidney was somewhat adherent to the spine by rigid and short fibrous bands; traces of fatty degeneration were also perceptible in that organ.

"The spine itself, anteriorly and longitudinally divided, presented in its fresh state the following appearances: no engorgement of blood; no tubercular deposits; no ordinary signs of inflammation, nor any trace of inflammatory products; the fibro-cartilages were very much softened, being almost gelatinous, out of which oily and adhesive liquid could be squeezed; the colour of both the cartilages and the infiltrated liquid was of a whitish tint. The elasticity of the cartilages had entirely disappeared; they were apparently of different consistence; nearer to the carious ulcer, appearing to be softer than the more distant. Between the second and third lumbar vertebræ there was carious disintegration, more superficial on the inferior surface of the second, but more substantial on the inferior surface of the third. In the centre of the third lumbar vertebral body, there was a small and moveable sequestrum, and outside of that bone the commencement of an osteophyte became observable. The corresponding intervertebral cartilage was almost entirely destroyed, the anterior laminae only being left; but those vertebral bodies had not approximated, being kept separated by the articular process. On the inferior surface of the eleventh thoracic vertebræ, about its centre, there was a small carious excavation surrounded by dense osseous tissue (eburnated,) and filled with an elongation of cartilage. Finally, it deserves to be mentioned, that the spine was almost straightened, the normal curves having nearly disappeared. This latter condition of the spine was by no means the

effect of death, being found also in the cast, taken in plaster from the living patient by myself.

“The microscopical examination, kindly aided by Prof. Alonzo Clark, presented the unmistakable marks of textural disintegration and fatty degeneration of the intervertebral cartilages in different degrees of advancement, from the breaking up of the fibrous texture, down to nucleated, elongated cells, corpuscles, and fat globules; but there was no evidence of tubercular matter.

“The nature of the case, and the peculiar pathological conditions of this specimen, give rise to most important considerations.

“In the first place, it is of the utmost importance to determine whether the disease originated in the vertebral bodies, extending subsequently to the intervertebral cartilages, or *vice versa*. In examining this specimen, it strikes one forcibly that the carious destruction is not only of limited extent, and comparatively superficial, but it is also confined to three vertebrae. Moreover, the caries, at the inferior surface of the eleventh thoracic vertebra, is in its incipient stage, presenting in its immediate vicinity eburnated osseous structure, which has been recognized by Jones Tomes as characteristic of the earliest phase of caries. The excavation is but trifling, and would scarcely receive a small-sized pea.

“The remaining seven vertebrae were, to all appearance, in normal condition. But the intervertebral cartilage between the second and third lumbar vertebrae is almost consumed, the anterior portion only being left. And the other intervertebral cartilages (notwithstanding that their corresponding vertebral bodies are in perfect integrity) are disintegrated and degenerated to a greater or less degree, obvious to the naked eye, as well as to microscopical inspection. Had the bones been primarily affected, the disease of the cartilages would have been confined to the neighbourhood of the carious affection, and the degree of disorganization of the former would bear comparison with the extent of caries.”

“Authors of note assert that cartilaginous tissue is not liable to inflammation, on account of not possessing blood-vessels and nerves. Later and more minute anatomical investigations have, however, shown that at least fibro-cartilages receive some minor blood-vessels, though they do not ramify in its parenchyma. But some modern writers entertain the idea that inflammation is but a perverted nutritive process, excited by morbid irritation. According to Redfern, Goodsir, Gurlt, Carpenter, Paget, Virchow, and others, cartilaginous structure is just as liable to inflammation as any other, provided that the formative action is carried on by some means; though the signs of inflammation, and the subsequent structural changes are necessarily influenced by those peculiarities which the nutritive process present. Thus we find in conformity with the observations of Redfern, Goodsir, and Gurlt, the inflammatory changes confined to the cartilaginous fibres and cells—the former broken down, partly dissolved and separated; the latter enlarged, deformed, the nuclei degenerated into corpuscles, and the hyaline substance infiltrated with serous fluid. In comparing those statements of the before-mentioned authors with the pathological peculiarities of the specimen under consideration, I am inclined to believe that a *low grade of inflammation* has been the nature of the disease. But however opinions may differ on

this point, it will be unreservedly admitted, that the character of that malady of debility is minus of action, resulting in structural disintegration. And this is decidedly of great practical weight in reference to the treatment in analogous cases.

"A third point worthy of discussion is the straight form of the spine. A straight vertebral column, at the of twenty-one years, must be considered a deformity, for there should be two curves, respectively in the thoracic and lumbar portions. This deformity is undoubtedly attributable to the entire loss of elasticity in the intervertebral cartilages, and at the same time to the recumbent posture the patient had adopted during the last fifteen months of his illness. In that position the spine had but to yield to the weight of those organs which pressed upon it anteriorly, and to adapt itself to the mattress. To this circumstance may be attributed the absence of approximation between the second and third lumbar vertebræ, which would have been unavoidable in the erect posture. The fact that (according to the above statement) the spinal column had assumed a straight form, is a sufficient proof that the opposite deformity would have been acquired by the patient in the upright position."

It appears to be Mr. Adams's opinion, derived, as he states, from the post-mortem examination of several cases of spinal disease in the early stages, made by him at St. Thomas's Hospital, during the last 11 years, and also from the examination of the preparations in the museums of London, that in the majority of instances of destructive disease of the spine, the affection commences in ulceration of one or more of the intervertebral fibro-cartilages, and generally in the central and more truly cartilaginous portions of the discs. The disease, from first to last, is sometimes limited to the intervertebral substance, as in the first specimen described, but more frequently it extends to the bodies of the vertebræ, especially in young persons; the bones being then destroyed by the two processes, caries and necrosis, proceeding simultaneously. This view of the pathology of those affections brings the destructive diseases of the spine into a closer relation to the ordinary diseases of joints, and the joint-end of bones, than has generally been acceded to them.

The general interest of this subject, we need hardly observe, is in relation to the pathology of "Pott's disease," which appears to have been too exclusively regarded as depending upon caries of the spine, the destruction of the intervertebral cartilages being considered of little importance, and ranked only amongst the secondary phenomena.

1. *On the topical medication of the Larynx in certain diseases of the Respiratory and Local Organs.* By EBEN WATSON, A.M., M.D., Lecturer on the Institutes of Medicine in the Andersonian University. (8vo, London, Churchill, 1854; pp. 183.)
2. *On Aphonia arising from Organic Lesions.* By HORACE GREEN, M.D. ('Lancet,' May 13, 1854.)

At different times during the last four years, we have had occasion to

notice the effects of topical medication of the larynx in various affections of the respiratory and vocal organs, but we have never attempted to give any connected or extended view of the subject. We are glad, therefore, of the opportunity which Dr. Eben Watson now affords us, for we are convinced that this mode of medication in proper cases and in competent hands, will be found to be a valuable addition to the resources of medicine.

In 1816, it appears, Sir Charles Bell attempted to apply a solution of lunar caustic to the interior of the larynx by means of a piece of lint fastened to the end of a catheter-wire, and this is the first attempt of the kind on record. It is doubtful whether he succeeded. After him, MM. Troussseau and Belloc endeavoured to do the same thing, and used for this purpose a probang of whalebone, armed with a piece of sponge. They certainly did not succeed with this instrument, and before long they abandoned it for a syringe of peculiar shape. These apparently, were the only attempts at topical medication of the larynx which had been made before 1840, when Dr. Horace Green took up the question, and drew attention to it.

As might be expected, Dr. Green's proposal to "sponge out" the larynx was one which met with warm opposition, and this the more, seeing that it was made in very confident and sanguine terms. Everything was doubted, and particularly the possibility of performing the operation. Even still there are persons in high position who entertain these doubts. With regard to the possibility of performing the operation, however, there need be no doubt, for this question is set at rest in many ways,—by the case of the man related by Dr. Horace Green, and reported in a former volume (vol. xvi, p. 64) in whom a piece of sponge, much larger than that used in these operations, slipped accidentally into the windpipe, and became impacted in a bronchus, whence it had to be removed by tracheotomy; by the cases recorded at various times in which pieces of bone or coin have found their way into the larynx; by the fact that the stomach-pump has over and over again been passed into the trachea of the living subject, both intentionally and unintentionally; and that Dessault actually proposes to do this in some cases as a substitute for tracheotomy; by the actual size of the laryngeal opening; by the feelings of the patients; and by the evidence of those who are practised in the operation. With common skill and patience, also, any one may convince himself of the practicability of the operation by attempting it on the dead body. Discarding this difficulty, therefore, we proceed to learn from Dr. Eben Watson the details of the operation. He writes:

"Laryngeal probangs, as I shall call them for want of a better name, should be made of whalebone, strong enough to be easily directed, and yet sufficiently flexible to yield to the pressure of the parts to be operated on. The sponge should be firmly fixed upon one extremity, and should not exceed one quarter of an inch in diameter, while it should sometimes be even smaller. One who is accustomed to make such instruments can easily attach such small sponges with sufficient firmness to the whalebones, and, at the same time, leave their surfaces soft and free of threads where they are to come into contact with the mucous membrane.

"The curve which I prefer is not a great one, but is just such a bend

as will enable the operator easily to avoid the tongue and epiglottis in endeavouring to touch the deeper parts. When this curve is greater, or when it is made to coincide with the quarter of a small circle, as Dr. Green recommends, I have found it a hinderance to the passage of the instrument into the glottis, because the power of the hand is not applied with sufficient directness, and also because the curve itself is an obstruction to the entrance of the extremity of the probang into a tube like the larynx."

Dr. Eben Watson does not appear to recommend any spatula for depressing and bringing forward the tongue.

"I believe," he says, "that little or no assistance from sight can be obtained in the practice of topical applications to the larynx; and that the only way of assuring one's self that he enters the rima glottidis, is to introduce the forefinger of the left hand into the mouth of the patient, passing it over the root of the tongue, till its point comes in contact with the tip of the epiglottis. By now maintaining the finger in this position, and cleverly passing the sponge of the laryngeal probang over it, the rima glottidis is reached with perfect certainty."

In order to the success of the operation, one of the most important rules of practice is to habituate the entrance of the larynx and the fauces to the presence of the instrument, in one or more preliminary occasions. This is insisted upon both by Dr. Eben Watson and Dr. Horace Green, and it forms a prominent point in the paper of the latter gentlemen which is now under notice. If this precaution be not attended to, the attempt in all probability will be frustrated by spasm,—for on no account must the passage of the larynx be forced when spasm is present. Indeed, at any time, the rule is to take the larynx by surprise, and pass the instrument at the moment of inspiration, when the muscles are relaxed, and the aperture open,—and when, with proper promptitude and dexterity, the instrument may be passed, not only into the larynx, but into the trachea. Still, the whole affair is the work of an instant, and the immediate *besoin de respirer* is such, as to leave no time for that leisurely 'mopping out' of either bronchus which has been stated to be practicable in some quarters.

Of the effects and signs of the introduction of the instrument, Dr. Eben Watson speaks as follows:

"Immediately upon this being accomplished, a more or less violent expiration is produced, during which, in most cases, the probang may be withdrawn so easily that the glottis is hardly, if at all, felt by the operator. The strong contraction which is sometimes felt detaining the probang in the throat is not produced by the glottidean muscles, but by those of the pharynx; and its occurrence may safely be taken as a good indication that the sponge had never been passed into the larynx at all.

"On attempting to take the first breath after the withdrawal of the instrument, the patient generally, even with the proper amount of previous preparation, finds an obstruction in the windpipe, and his efforts to overcome it occasion a stridulous noise. If he is frightened at this, or if the part be peculiarly excitable, the duration of the spasm may be prolonged; but in the great majority of instances, a little quietness and refraining from violent efforts to inspire, are sufficient to enable him

speedily to recover his usual freedom. The voice, however, becomes generally weak, and a roughness in the air-tube is experienced during respiration for a variable length of time after the touching has been performed; and sometimes, when the patient expectorates long after the operation, he perceives the taste of caustic in the mouth."

Of the various substances which have been recommended or tried as local applications to the interior of the larynx, Dr. Eben Watson considers the pure crystals of nitrate of silver as unquestionably the best; and after them the hyposulphite of soda and silver ( $\frac{3}{4}$  j. to  $\frac{3}{4}$  j. of water), the latter salt being most useful in cases where the discharges from the inflamed mucous membrane have an acid reaction, where a mild application is sufficient, and where the taste of the nitrate of silver is strongly objected to—the taste of the hyposulphite being sweetish and somewhat agreeable.

The solutions of the nitrate of silver are of different strengths, and Dr. Eben Watson finds it convenient to number them, as M. Joubert has done: No. I containing 10 grains of the crystals of nitrate of silver to the ounce of distilled water; No. II, containing 20 grains; No. III, 40 grains; and No. IV, 60 grains to the ounce of water.

With this preliminary explanation we now proceed to notice the practical results of the treatment under consideration; and in doing this, we may say that whatever the affection, whether inflammatory or nervous, provided the larynx could be shown to be, or supposed to be, affected, the treatment has been tried. The object in view has been to protect eroded surfaces, to stimulate the circulation, to unload congested vessels by producing exosmotic currents, or to remove nervous excitability. Dr. Eben Watson has given the treatment a trial in a wide range of subjects—acute laryngitis, chronic laryngitis, aphonia, hooping-cough, spasmodic asthma, stomach and hysterical coughs, laryngismus, and the laryngeal complication of pulmonary phthisis; and we now proceed to notice the results of this trial as stated in his book, omitting as not connected with the question at issue, many excellent remarks upon the pathology and diagnosis of the several affections which have been named.

(a.) *Acute Laryngitis.*—The conclusion at which Dr. E. Watson arrives is, that topical medication is in no way suited to active and sthenic laryngitis, and that it is especially unsuitable in that variety of laryngitis, which is attended with plastic exudation, as in true croup. In this latter part of the conclusion he appears to differ from Dr. Horace Green, but, as he shows, this difference is more apparent than real.

"Dr. Green," he writes, "illustrates his little work on 'Croup' by thirteen cases. He may possibly refer to others throughout the work, but these are the only examples fully related, so that they can be judged of independently by the reader; hence they are carefully numbered, so as to permit of easy reference. Of these thirteen cases, two are quoted from Mr. Ryland's work on the 'Larynx,' chiefly for the sake of the account given by that author of the morbid appearances after death. In these, of course, the topical treatment was not used, so that the cases which illustrate this treatment given by Dr. Green are reduced to eleven. Nor am I convinced that these were all cases of true exudative croup; nay, I think it is certain they were not; for No. V was a mere hoarse-

ness, and No. VIII was a spasmodic affection of the glottis, which came and went without any symptom of croup at all. Nos. II, VII, and X, were apparently cases of acute œdema glottidis: leaving only six cases the symptoms of which resemble those of croup. Even some of these six have more the characters of diphtheritis than of croup, and in one of them (No. XIII) the affection followed measles. In only four of the six cases was the disease fully developed, and of them one half died. But, supposing that all the eleven cases related in this book were really cases of croup, more or less severe, I do not think that the mortality among them, viz., three deaths in eleven cases, was less than it generally is in the ordinary run of croupy cases occurring in the better ranks of life, and treated in the usual way. It follows, therefore, that Dr. Green's experience, so far as we have it in his work on 'Croup,' does not show that his success in the treatment of cases of that disease was increased by his using the topical applications to the interior of the larynx; for he very properly used other measures as well, and the result has been a mortality not at all less than if he had neglected the topical treatment altogether. I consider it no small corroboration of my opinion, in regard of this point, that M. Troussseau states in the 'Union Médicale' for 1851, No. 100, as one reason of his superior success of late years in the treatment of severe cases of croup by the performance of tracheotomy, that he has discontinued the application of a strong solution of caustic to the larynx and trachea, which he used formerly to insist upon after the operation."

Though unsuitable in active laryngitis, however, Dr. E. Watson contends, that topical medication is useful in sub-acute inflammation, or when the force of the inflammation has been subdued by appropriate treatment. In croup, also, he contends that there is a preliminary period, which he calls the "pre-exudative stage," in which the inflammation may be cut short by topical medication—a period in which the inflammatory action does not differ in any respect from acute catarrh; and he cites the following case in corroboration of his opinion—an opinion, moreover, in which Dr. Horace Green coincides.

**CASE 5.**—It is that of a family of young children, all of whom are remarkably subject to croup, and, notwithstanding the utmost care in their management, some of them have suffered once or twice from the disease, during the winter, for some years past. In the beginning of the present year, I attended two of them, and, within the last few days, a third, when attacked by this disagreeable visitant.

Whenever a croupy cough is heard in this family, the throat and larynx are at once touched with the solution of caustic. A warm bath, a few drops of antimonial wine, and, if necessary, a dose of laxative medicine, are next had recourse to, and very little else is generally required. The throat is touched for the two or three succeeding days, by which time the child is usually quite well.

Only once that I remember did this abortive treatment fail in my hands, and it was in the case of a member of the family here referred to. The weather was at the time very severe, and the subject of the disease, a strong little boy about six years of age. For some reason or other, it was longer than usual, too, before the topical application was made to the larynx, and it failed.

Exudation was thrown out, and the boy passed through a critical illness, during the intensity of which I laid aside the topical treatment, and employed leeches, calomel, and antimony. But, when, as happily occurred in this case, the exudation had separated in due time, I renewed the stimulant applications to the windpipe, with marked benefit, and the child made a speedy and perfect recovery.

Topical medication is also shown to be of extreme utility in that form of laryngitis in which congestion and serous effusion are the predominant features, and this is illustrated by a case which tells its own tale.

**CASE 6.**—A young child, of eight months' old, had severe hemorrhage from the gums after division of them over the incisor teeth, and in the exhausted state which followed, he caught cold, and became affected with the ordinary symptoms of croup, which were chiefly combated by an emetic, counter-irritation over the throat and chest, and by repeated small doses of calomel. But very soon the chief, nay, only symptom, became that of impeded respiration. The child's efforts during inspiration, the dry whistling sound which accompanied it in the trachea, the nearly total absence of vesicular murmur in the lungs, and the short expiratory sounds, taken along with the previous state of the little patient, rendered it evident that oedema glottidis had occurred ; and if to this it be added that the pulse was feeble, the patient pale and exhausted, and that he could hardly be made to receive nourishment, his extreme danger will not be questioned.

I introduced the probang down to the glottis, but not through the rima, owing to the swelling of its margins. The strength of the solution used was thirty grains to the ounce of water, and it was applied three or four times at short intervals. The effect was soon apparent. Some coughing, and the expulsion of tough muco-aluminous matter first followed, and then the child became quiet, the breathing was freer, although of course there was still considerable obstruction at the glottis. In a few hours this obstruction seemed to be increasing, and the application of the caustic solution was again renewed in the same way, and with equally favorable results. The calomel was continued, and a warm water enema was administered, after the action of which the child took the breast, and slept for a short time. The future progress of the case was marked by a gradual but steady improvement. The calomel was soon stopped, the bowels were duly regulated, and the topical applications were persevered in daily for two or three weeks, by the end of which time all obstruction to the breathing, as well as the cough, and even a degree of hoarseness which had latterly been observed, had completely disappeared, and the child's general health rapidly improved.

(b.) *Chronic Laryngitis.*—In the chapter which treats of this subject, several very excellent cases are related, in which the treatment under consideration had been tried. In this treatment, the chief dependence is placed upon topical measures, but other means are not neglected, and especially silence. The necessity of caution and care is inculcated, where the lungs are at all implicated, and so also is the suspension of topical treatment (as it seems to us) during those occasional acute exacerbations which occur during chronic laryngitis.

“The strength of the solution should vary with the requirements of the case, and it should be applied every day, or every second day, according to the patient's feelings. After each application, a degree of rawness in the throat and windpipe, sometimes amounting to positive pain, will

supervene, and while this lasts no new application should be made; but, as soon after its subsidence as convenient, it may be repeated with benefit. In fact, the sooner it can be done the better; for, powerful as we believe the remedy to be, it is often a long time ere any perceptible improvement takes place, especially when the case is one of long standing. It is of great importance that both surgeon and patient be prepared for this before commencing the treatment, else disappointment will infallibly ensue. All attempts on the part of the patient to test the progress of the cure should be for a time discouraged by the surgeon, and he should carefully avoid appearing to expect improvement, by asking after the symptoms, until he has good reason to believe that they are yielding. Indeed, I have seldom found it necessary to ask at all after improvement in such cases, for the patient himself is always fully aware of it when it has occurred, and equally eager to speak of it."

As an illustration of the cases in which the treatment was successful, we cite the following case:

CASE 12.—A clergyman from the north of Scotland committed himself to my care in January, 1850. Fully six years before, he had been attacked by what he considered a common hoarseness, which he disregarded for a time; but, as it grew worse, he at length sought for medical advice. His case seemed a difficult one, and baffled the treatment of the surgeon who ordinarily attended him. He therefore removed from the country, where his parish was situated, into Glasgow, and put himself under my father's care. He was then treated by frequent leeching and blistering; he was put on a mild and continued course of mercury, followed by one of iodine, and latterly he had caustic issues made at each side of the thyroid cartilage. With these kept open, he resided for several winters in the south of England, and never, during his whole treatment, did he at all exert his voice, but spoke when necessary in an under tone. At length he returned home, having derived little or no benefit from the means he had employed, and determined to give up all idea of being able to discharge the duties of a clergyman.

His complaint, however, did not become stationary, for he soon found that not only was he unable to speak aloud, but he could not sit for any length of time in a heated or crowded room. He was therefore debarred from attending public worship, and even when in the same room with a few friends, in private, he latterly felt so oppressed that he was obliged to go out into the fresh air now and again, to breathe freely.

He was in this state when he visited me on the 6th of January, 1850. He spoke with apparent difficulty, in a low husky whisper, which in a few minutes became broken and disagreeable. His health was perfectly good, and he had no cough. On examining his throat nothing particular was seen. The mucous membrane was of its usual colour, the palate was not relaxed, and no papules or follicular ulcers were to be discovered.

He complained of a burning pain, and frequently of an intense feeling of dryness in the larynx. The pain was not increased by pressure of the thyroid cartilage from without, but, during the process of applying the solution of caustic afterwards, he often mentioned that it smarted at that spot. Percussion of the larynx and trachea was loud and sonorous; the breath sounds were dry and hissing, and both the expiratory and inspiratory were of equal duration; the voice, heard through the stethoscope applied over the thyroid, had a stifled, and sometimes almost a croupy tone, and the cough had a similar character.

I lost no time in commencing the topical treatment in this case, at first

with a solution of one scruple of the nitrate of silver in an ounce of water. I permitted him to take exercise daily in the open air, but advised the use of the respirator, as the weather was cold and changeable. I also recommended a blister over the larynx, to assist in diminishing its irritability, and allow me sooner to pass my sponge through the glottis. This was accomplished in two or three days after commencing the treatment, viz., about the 8th or 9th of January, and continued every day, with few exceptions, till the end of the month. He then found himself so much improved as to be able to attend even a crowded church without feeling such oppression of breathing as formerly, and without losing his voice, which was greatly improved, though still husky and irregular, i.e., incapable of modulation. I continued to touch the interior of the larynx, the glottis, and epiglottis, during the whole of February, every second or third day; and I increased the strength of the solution to two scruples of the nitrate of silver to an ounce of water. By the end of this, the second month of treatment, his sensations were so different, and his voice so much improved, that he considered himself cured. He had for some weeks attended public worship regularly twice every Sunday; a habit which he had been obliged to discontinue during the four previous years of his life. He could now speak or read aloud in an ordinary room without difficulty or failure of voice. His tone was firm and clear, and he modulated his voice as much as he had ever done.

I cautioned him against any excessive use of his voice, but encouraged him to exercise it moderately every day. I recommended him still to use the respirator, and to have his throat touched by some surgeon at least once a week, till his voice was fully restored. Since the period of his residence in Glasgow, I have repeatedly seen and conversed with him, and am able to state that his voice remains strong, and that he is free from all his other laryngeal symptoms.

(c.) *Aphonia*.—The chapter on this subject in Dr. E. Watson's work, and the paper by Dr. H. Green, the title of which is prefixed to this article, are both occupied to a great extent with a description of the varieties of aphonia, but we need not enter into this part of the subject, for practically the conclusion is that topical medication is suitable and essential in all varieties. "My experience," says Dr. Green, "is entirely in favour of the topical application of strong solutions of crystallized nitrate of silver, constitutional remedies being at the same time employed when indicated, as in other cases where local disease is complicated with general derangement. As auxiliaries to the topical treatment, I have found benefit to be derived from the preparations of iodine, chalybeates, and other tonics, with inhalation of creasote, but alone I have found them of no avail" ('Lancet,' 13th May, p. 513). Dr. Watson does not point out any variety of aphonia in which the topical medication is not suited, but he relates cases of all kinds—cases depending on thickening of the glottis, on palsy of the glottidean muscles, on relaxation and thickening and ulceration of the mucous membrane, in which it did good, and for the most part the cases are convincing and conclusive as to this being the case.

(d.) *Hooping-cough*.—The chapter on this subject is one of considerable interest, though occupied with the discussion of many matters which are foreign to the question in hand. Dr. E. Watson is very wishful to prove that inflammatory action in the upper part of the air-tube is an essential part, and not an accidental occurrence in

hooping-cough; but we do not know why he should be so, for, as he himself shows afterwards, the topical medication is useful in nervous as well as in inflammatory conditions of the larynx. Nay, we rather gather from the history of laryngitis, that true inflammation is in itself an objection to this mode of treatment. In hooping-cough also, Dr. E. Watson finds that "just in proportion to the intensity of the inflammatory process which may be present, so ought the solution employed to be proportionally *weak*." (p. 116).

Apart, from theory, however, the facts here stated are of great interest, and more conclusive, perhaps, than any others in the volume.

Pursued with proper precautions, and with especial attention to the diet and regimen of the patients, the topical treatment of hooping-cough is shown to shorten the disease in a remarkable manner, and to render it nearly as mild as ordinary catarrh.

"Complications seldom occur, and thus the disease is stripped of its most formidable characteristic. Hence it is that I can give the following favorable numerical account of the results of the treatment in question:—

	Cured within a fortnight.	Cured in 3-4 weeks.	Resisted treatment.	Total.
M. Joubert's cases . . . . .	40	20	8	68
Cases treated throughout by myself . . . . .	46	20	0	66
	—	—	—	—
	86	40	8	134

"During the last spring there has been an epidemic prevalence of hooping-cough, not only in Glasgow but in the neighbouring country. I have, therefore, had an opportunity of seeing a considerable number of cases; and having treated the most of these myself, throughout their whole progress, I may add them to the preceding table. I shall divide them into three classes—those cured within a fortnight, those cured in three weeks, and those cured in four weeks. My reason for this change is, that the disease seemed to me in most of these cases very severe, and the majority of them were not cured till the third week. The numbers are as follows:—Cured in a fortnight, 10; in three weeks, 16; in four weeks, 5; resisted the treatment, 1; died, 1.

"The proportions then stand thus:

Cured in two weeks . . . . .	96 cases	or	57.4 per cent.
" in three to four weeks . . . . .	61 "	or	36.5 "
Resisted the treatment . . . . .	9 "	or	5.3 "
Died . . . . .	1 "	or nearly	0.6 "
	—		—

"Many of the cases which were longest under treatment had relapsed; but I have counted the whole period, from the commencement to the end of the treatment, without any distinction in every instance; though it often happened that the disease was almost completely banished within the fortnight, when, from some unlucky exposure, the hoops were brought back again for a time. It was such a case that I have marked as having resisted treatment; for though at first the disease seemed to yield in the usual time, yet a relapse occurred, but of such a mild nature, that I allowed the patient to be removed to the coast with the other members

of the family, and thus, I am inclined to think, the treatment did not get fair play. The child's mother, indeed, continued the applications, and is convinced that they were instrumental in keeping the hoops moderate. On the whole, however, as the case was more protracted than the rest, I am willing to consider it a failure.

"In the fatal case which I have marked in the table, the patient was an infant of very delicate constitution, and only two and a half months old. Yet the hoops, which at first were very violent and suppressed (dumb kinks), became mild, and ceased to occur for nearly a week, when, without assignable cause, convulsions came on, and the child sank, unable to resist their violence.

"It ought here to be remarked, as giving additional weight to the evidence afforded by the statistics of these cases, that they occurred in different countries, and at different seasons of the year. M. Joubert's cases were treated in France, and were spread over a considerable period of time. My own happened, of course, in and around Glasgow, during all the variations which our changeable climate has undergone from 1848 to the present date; and in this time there has been at least one epidemic prevalence of the disease in more than usual severity.

"In contrast with the preceding results of the topical treatment of hooping-cough, I subjoin a table of the ordinary duration of the disease when treated in the usual manner, as stated by a few of our best and most recent authorities.

"Dr. R. Williams\* states it at from two to four months, or more than a year.

"Dr. Copland† states it at from thirty-two days to five months, or more.

"Dr. C. J. B. Williams‡ states it at from six to ten weeks, or more.

"Dr. Walshe§ states it at from eight to thirteen weeks, or more.

"Dr. West|| states it at from eight to fourteen weeks, or more.

"MM. Barthez et Rilliet¶ state it at from one to three months, or more.

"Average of all the statements, from one and one-half to three and a half months."

\* \* \* \* \*

"But surely the numerical results just given prove, in a manner beyond all cavil, that the simple treatment which I have suggested is capable of cutting short the hooping-cough with as much certainty as quinine arrests an intermittent fever; and, moreover, that it renders the disease, while it lasts, both milder in type, and safer to the patient, than the most favorable circumstances of season or epidemic could possibly do."

Certain precautions are necessary in carrying out this treatment, and what these are the following quotations will serve to show:

"In some cases of hooping-cough, an obstacle is presented to the topical treatment, by a state of matters which is, in other respects, by no

\* Williams on *Morbid Poisons*, vol. i, p. 311.

† *Dictionary of Medicine*, pp. 236, 237.

‡ *Library of Medicine*, vol. iii, p. 94.

§ *Walshe on Diseases of the Chest*, pp. 418, 419.

|| *Lectures on Diseases of Children*, p. 279.

¶ *Traité Pratique et Clinique des Maladies des Enfants*, 2me édit., tom. ii, p. 624.

means unfavorable to the patient. I mean the irritability of his stomach, which makes the slightest touch of the sponge in the throat the signal for violent retching, and vomiting if the stomach be full. I very often, therefore, find it necessary to prescribe for this symptom frequent small doses of heavy magnesia, combined sometimes with a few grains of the trisnitrate of bismuth. Such simple treatment seldom fails to mitigate the vomiting sufficiently to admit of the continuance of the topical applications.

“These applications should be renewed at least every second day; but if their commencement has been delayed till the disease is at its height, or if the hoofs are very violent from the first, they should be repeated more frequently; and, for the reason stated above, the time of making them should be selected so as to have the stomach empty; and the patient should not be allowed to eat for an hour or two afterwards, else the feeling of rawness in the throat, which follows each application of the remedy, will be unnecessarily increased, and occasionally hooping and vomiting will be induced.

“In making these applications of solution of caustic to the throats of children, everything in the shape of a formidable spatula should be dispensed with; and either a common teaspoon, or the index finger of the left hand, should be used. In all cases in which it is important to pass the sponge into the larynx, I consider it quite necessary to introduce the finger into the patient’s mouth, and to touch with it the tip of the epiglottis, along the surface of which the instrument may be glided down with certainty to the rima glottidis. And if this proceeding be performed at once with firmness, few children either can or will resist it by struggling, or by biting the operator’s fingers; but much patience and tact is sometimes necessary to school them to submission in the beginning of the treatment. After a few times, no more trouble is experienced.

“In the beginning of the disease, when the pharyngo-laryngeal membrane is still in a state of catarrhal inflammation, the larynx ought not to be entered. The operator should be contented with applying the solution to the parts above the glottis; for, if he passes the sponge beneath that organ, he will induce a very severe spasm, which will frighten the patient, and rather hinder his future proceedings. But after the general inflammatory state has been got rid of, and when the disease has come to its height, the larynx must be entered, in order that the caustic may be brought into contact with the nerves, upon the excitement of which the continuance of the hoop depends. And, by this time, the upper parts have become so accustomed to the proceeding, that the spasm produced by it is of trivial intensity, and is soon forgotten by the patient; while, on the other hand, its beneficial effects are marked and lasting.”

(e.) *Spasmodic Asthma*.—In Dr. Watson’s opinion, spasm of the glottis is one essential part of this affection, and ergo the necessity for topical medication to the larynx. Cases, also, are related, in which this kind of medication appears to have been attended with benefit. The treatment is not recommended in asthma depending upon emphysema.

(f.) *Stomach and Hysterical Coughs*.—In the chapter treating on this subject, several cases are related for the purpose of showing that the larynx is often chiefly at fault in coughs of this kind. Dr. Watson

says that practitioners are too much in the habit of neglecting the condition of the pharyngo-laryngeal membrane, or of regarding it merely as a sign and token of disease elsewhere, and he thinks that it is often more correct to believe that the laryngeal affection, though it may have arisen secondarily, is a new disease, running a separate course, and demanding a special treatment.

(g.) *Laryngismus.* Dr. Watson considers that considerable benefit might arise from topical medication of the larynx in certain cases of laryngismus, and that this plan of treatment might answer the same end as tracheotomy, and be free from the objections which are connected with that operation. He, also, relates three cases, two by himself and one by Dr. Horace Green, in corroboration of this opinion, which we subjoin, merely adding in so doing, that Dr. Watson does not appear to be aware of the analogous experiments which were performed on the lower animals by M. Brown-Sequard (v. 'Abstract,' vol. xviii, p. 50). The cases are as follow :

CASE 33.—Early in January, 1852, I was called to a young lady, who had for several years suffered very frequent attacks of epilepsy, and when I first saw her, she had but very short and uncertain intervals between the fits. These were very severe; they were accompanied by laryngismus, and presented all the more usual characters of the disease in its most marked form.

Her bowels were thoroughly cleared out with croton oil, and the cold bath was used with good effect. The fits became less frequent, though almost equally severe when they did occur. The valerianate of zinc, and galvanism, were then added to the cold bath, and due regulation of the bowels. I now, moreover, began to touch the glottis with a solution of one scruple of nitrate of silver in an ounce of water. This was continued regularly every day for a fortnight, and afterwards for some weeks, with longer intervals between the applications. By the middle of February, the fits had quite changed their character, being more like short faints than regular convulsive paroxysms; and they have since then occurred very much less frequently. The patient has greatly improved in general health, and in activity of mind; and she has lost much of that dread of the disease which formerly rendered her existence miserable.

CASE 34.—A servant-maid was lately sent to me under the following circumstances :—She had been strong and healthy till about twelve months previously, when she received a slight injury on the back, which frightened her considerably at the time, but did not seem to demand any particular attention; since then, however, she has almost every night been seized with a fit which her sister describes as follows :—she awakes from her sleep, generally early in the night, with a crowing noise accompanying her breathing; she then becomes insensible and so powerless that she would fall, if out of bed; she foams at the mouth and clenches her teeth, sometimes upon her tongue, which consequently bears the marks of several bites; she comes out of the fit yawning, and complains of a severe headache, which continues during the following day. She seldom takes more fits than one during the night, but has never had them in the daytime, except once when she had fallen asleep on the sofa.

Her expression, when she called on me, was very languid, her tongue was slightly furred, but she said her appetite was good, even unnaturally good, and all her other functions were duly performed. She complained of

a dull, heavy pain in her head, and of listlessness and inability to do her work.

I considered this a mild case of epilepsy, complicated with distinct laryngismus, and I thought I could make out from the clinical history of the paroxysms, that they were much aggravated by the latter occurrence, viz., the laryngismus. Even many hours after the fit, and probably always, the laryngeal sounds were loud and stridulous, when heard through the stethoscope; and I doubt not that in this case fear of a fit might, when I first saw the patient, increase the contraction of the glottis, and thus cause the other phenomena of the paroxysm. For I believe this patient was hysterical, as most such patients are, and that the two diseases merged into each other by imperceptible, or rather, at present, undefinable degrees.

Her treatment was intentionally simple. She was already in the habit of taking a shower-bath in the morning, and a gentle laxative medicine every night. I advised the continuance of these means; and, in addition, applied the solution of nitrate of silver (40 grs. to the ounce) to the glottis daily for a fortnight, by which time the laryngismus had entirely disappeared. During the latter half of this period she was free of fits, though strictly watched, and she has not had any since. Only a few weeks, however, have as yet elapsed, and therefore I shall not be so sanguine as to think or state that her disease is removed; but it must be remembered, that the fits were nightly in their recurrence for months before the topical medication of the larynx was employed, and that its employment was the only change which was made on the judicious but unsuccessful general measures previously adopted.

The third case is communicated in a letter by Dr. Douglas, a brother-in-law of Dr. Horace Green:

"My dear Doctor,—I take great pleasure in sending you an abstract of the history of an epileptic patient, as treated by Dr. Horace Green, of New York, while I was associated with him.

"The patient was a man over thirty years of age, and had been afflicted by this distressing disease for twenty years of his life, with the exception of two years when he was completely exempt from any attack, and when he confidently hoped he had entirely overcome the disease. This exemption followed the internal administration of nitrate of silver, which, by the advice of his physician, he had taken for several months continuously, and which, fearing a relapse, he had on his own responsibility continued, notwithstanding the caution of his physician, until complete discoloration of the skin took place.

"At the expiration of these two years the attacks recommenced. The patient was travelling, and met with a serious accident, which produced a great excitement and agitation in his mind. It was immediately following this excitement that the attacks reappeared.

"At this period the attacks were mild, and took place at long intervals, but increased in severity and frequency from year to year, until, at the time he came under Dr. Green's care, they had become unusually frequent—the poor patient suffering frequently five times, and seldom less than three times a day. His mind was completely shattered, and his memory so defective, that he was unable to recollect the commonest occurrences from day to day.

"The topical application of a strong solution of nitrate of silver to the interior of the larynx and trachea was proposed and adopted. At first no apparent difference in the frequency or severity of the attacks was observed.

The cauterizations were, however, continued daily for several weeks, when the severity of the attacks seemed to diminish, serious paroxysms alternating with slighter ones. From this moment the condition of the patient became gradually and positively better. Attacks of all kinds were retarded for a period of ten days, when, for the three succeeding days, he would have two or three severe attacks each day, which would be followed by ten days of immunity. After two or three periods of ten days, the intermission was extended to twenty days, and then to thirty, and finally months passed between his attacks.

"During the first two periods of ten days the applications were made daily, but after that time they were only made for two days previous to the time the attacks were expected, and until they had entirely ceased.

"When I left New York last June, the patient had passed nearly five months without having a severe attack; occasionally, however, he would feel a slight giddiness, and at such times he would have the application made, but even these symptoms were of rare occurrence. With this exception there has not been the least appearance of a return of the disease for many months. His strength of mind has returned in a great degree, and his memory has improved in a corresponding ratio; to such an extent, that he has been enabled once more to attend to his business, which he had been obliged to give up entirely.

"This case, of which the above is a mere outline, has been reported in full by Dr. Green, in the 'New York Medical Gazette.' Not having the journal with me, nor any notes of the case, I have been obliged to furnish these few data solely from memory. Imperfect as they are, I trust they may contain sufficient of interest to induce further trials of this remedy, and may add, by their reference to the more extended report, an additional evidence to the value of topical medication in this form of disease."

(h) *The laryngeal complications of Phthisis.* The conclusion respecting this part of the subject is—

"1st. That in cases of pulmonary tubercle the topical medication of the larynx may become necessary for, and is capable of curing certain morbid states of that organ, especially excessive nervous irritability, and actual inflammation or ulceration of its lining membrane; and, 2d, that by alleviating or curing these morbid states of the larynx, much distress may be saved to the patient, and time may be gained for the treatment of the pulmonary lesions and the constitutional disease.

"In all cases of pulmonary phthisis, the topical treatment of the larynx, if deemed advisable, should be begun with great caution, and more freely used only after the patient has become accustomed to it. If this general rule be not regarded, damage may be done; and at all events the patient will be so frightened as to resist its repetition. In very acute cases, and in chronic cases during an acute exacerbation of the disease, this kind of treatment is seldom, if at all applicable; but when the pulse is slow, and the fever moderate, it may safely be employed, and will, as formerly shown, do good in many cases. I may mention, in conclusion, that out of a very considerable number of phthisical patients treated by me, I have only twice been obliged to give up the topical applications; once from the acuteness of the pulmonary affection, and on another occasion from the indomitable retching which the slightest touch of the throat occasioned. The latter obstruction to the treatment may generally, however, be over-

come by patience and the use of certain simple medicines for allaying irritation in the throat and stomach."

The conclusion from the whole subject unquestionably is that topical medication to the larynx is a remedy of great importance in many cases *in competent hands*, and that very great credit is due to Dr. Eben Watson for the very able and careful manner in which he now brings it fairly before the medical practitioners of Great Britain and Ireland, to whom we have much pleasure in recommending his work.

1. *Radical Cure of reducible Inguinal Hernia, after the method of C. W. Wützer, M.D., Professor of Surgery in the University of Bonn.* By J. E. WEBER, M.D. ('New York Journal of Medicine,' Jan. 1854.)
2. *On the radical Cure of reducible Inguinal Hernia by a new Operation, with cases and remarks.* By T. SPENCER WELLS, F.R.C.S. ('Medico-Chirurgical Transactions,' vol. xxxvii, 1854.)

The object of these papers is to direct attention to Professor Wützer's operation for the radical cure of reducible inguinal hernia—an operation which appears to be of far greater promise than any other operation which has yet been proposed for the same purpose.

Professor Wützer's plan is to fill the inguinal canal by invaginating a portion of the scrotum or neighbouring integuments into it, and to fix the invaginated portion in this position by means of adhesive inflammation. This he does by means of an instrument which enables him to regulate the pressure and the consequent inflammation, with great nicety. It is in the instrument, by which the end is attained, that the only novelty of the plan consists, and this we will describe first of all.

This instrument, which is called *invaginatorium herniale*, may be understood by means of the woodcut at the end of this article.

It is necessary to have instruments of various sizes. For it is of great moment to have them to fit the inguinal canal accurately, so as to exercise a moderate distension.

The mode of using this instrument is thus described by Dr. Weber :

"After the inguinal parts have been shaved, and the rectum and bladder have been evacuated, the patient is placed in the same position as in that for lithotomy. Then the instrument should be prepared for operating, by taking the plate apart from the cylinder (Fig. 1, *a* and *d*), and drawing the needle (Fig. 1 *c*) outwards, so that its point remains concealed in the anterior opening of the cylinder (*a*).

"The surgeon stands between the legs of the patient, and first reduces the intestine which fills the hernial sac. When this is accomplished he places the point of the index-finger of his left hand upon the scrotum beneath the external abdominal ring, with its palm-side directed upwards and outwards. He then pushes the elastic parts of the scrotum, which he has taken hold of, into the inguinal canal, so that the point of this invaginated cone extends a little beyond this

internal abdominal ring. Then he bends his index-finger, which is thus far introduced into the inguinal canal, in such a manner that a small free space may exist between its palm surface and the upper surface of the canal, into which space he brings the point of the cylinder. By degrees the cylinder is slowly pushed in the oblique direction of the inguinal canal upwards and outwards, and at the same time the finger is drawn gradually backwards so that the cylinder may occupy the place of the finger. This manœuvre is not without difficulty.

" The invaginated cone returns easily with the finger, and the instrument is insufficient to carry back the cone to the desired position. Should the invaginated cone protrude the least backwards, it will then be necessary to renew entirely the before-stated manœuvre, and, to prevent a like occurrence, the cylinder, being reintroduced, must be more closely pressed against the finger. There are other difficulties in this procedure—viz., when the internal abdominal ring is small, preventing the cylinder with the finger from passing its entrance; in large and old hernias, it is still more difficult, because the cylinder may be carried into the loose cellular tissue between the superficial fascia and the aponeurosis of the external oblique muscle. This mistake cannot often be discriminated, and none but a surgeon who has a perfect knowledge of the surgical anatomy of the parts, and who is a careful operator, will easily overcome these difficulties.

" As soon as it has been ascertained that the cylinder properly fills up the inguinal canal, the needle (*c*) is then pushed through the integuments; no bleeding will follow, as the point of the needle is three-edged. The plate (*d*) is now joined, by allowing the needle to escape through its anterior opening (*n*). The staff (Fig. 2 *k*) through the posterior (*b*), and the posterior screw (*e*) in the forked hinge (*g*). By means of the screw (*f*) of the staff, the plate is moderately pressed down against the skin, fixing its position by means of the posterior screw in the forked hinge. The operation is now concluded by screwing off the handle (*b*) of the needle, and by covering the point of the needle with a small piece of cork. Under the scrotum a small pillow should be placed for its support.

" The patient should be confined to bed in an easy horizontal position, with flexed knees, and a pillow under them. The after treatment should be directed cautiously; on the one hand no impediments should be allowed to hinder a sufficient degree of inflammation; and on the other, the inflammation should be arrested when proper.

" A few days previous to the operation, it will be proper to direct an antiphlogistic diet, and after the operation to cause an increase of the natural evacuation from the bowels. An antiphlogistic treatment will not be necessary if the patient is quiet, and has no disposition to the inflammatory diathesis. The screw which presses the plate against the integuments of the inguinal canal can every two days be tightened, although prudence requires the plate to be lifted every time, in order to ascertain the degree of the existing inflammation. If the inflammation should be found to be more intense than was intended, either the pressure must be taken off or the instrument removed. Generally, it is not necessary to use the instrument longer than six days, which

time is sufficient to produce the required adhesion between the invaginated parts and the hernial sac. If the instrument remains too long, instead of the required adhesion a disastrous suppuration and gangrene near the needle may be produced. In irritable individuals, six days may be too short, and in torpid, it may be too long a period.

"When the instrument is to be taken away, the plate must be first removed; the handle should be screwed to the needle, and then drawn out. The left hand has to fix the invaginated parts, the right hand must cautiously remove the cylinder. The small cavity remaining from the invagination must be filled with soft, dry lint, which should be held there by means of adhesive plaster. The supplicated punctured wound, on the place where the needle was, must be treated upon general principles; the patient must remain in bed, not only until the wound has cicatrized, but at least eight days longer, in order that the new adhesions may be greatly strengthened. In the inguinal canal a hard plug will be felt, which will be absorbed, and, after a lapse of some time, can scarcely be perceived. The radical cure is permanently established when the adhesions have taken place in the circumference of the entire inguinal canal. The hernial sac cannot leave the place into which it has been pushed by the invagination, as the needle has perforated it at two opposite points, and produced an inflammation between the serous surfaces sufficiently strong to secure at least, at those two points, firm adhesions. Wützer\* considers it very important that his needle attack in this way the hernial sac, and thinks it very remarkable that Gerdy† (who also operates by invaginating the scrotum, for the cure of a reducible hernia, and who perforates also by means of a needle the invaginated scrotum at the highest place to which he has pushed it) should state that his needle never touches the hernial sac. Wützer says that it is contrary to the anatomy of the parts, and thinks that if it were really so, Gerdy deprived himself of the most important means to secure the success of the operation. Wützer recommends it as prudent, in order to strengthen the permanent nature of the cure, to direct the patient, as soon as the cicatrization is completed, to wear a slightly pressing truss during three months. This will prevent the invaginated parts, while new adhesions are yet fresh and tender, from coming down to their original place. During the same time, it will be advisable that the patient should not engage in any heavy work."

The following case, the description of which is taken from the 'Organon für gesammte Heilkunde,' vol. i. sec. 1, was operated upon by Wützer after this method, and cured. It may serve as an example:

Nicolaus Wolff, æt. 34, a farmer by occupation, had contracted an inguinal hernia on the right side three years before by lifting a heavy load. On the 4th day of October, 1838, he was admitted to the Surgical Hospital at Bonn, suffering from secondary syphilis, of which he was relieved after having undergone a strict medical treatment. After the lapse of a considerable time,

\* Organon für die gesammte Heilkunde; Bonn, 1840, vol. i, sec. 1.

† Schmidt, Jahrbücher, vol. xiii, 375.

that his health might be completely restored, it was resolved to try the above-described operative procedure for the cure of his inguinal hernia. The man very willingly submitted to the chances of the operation, as he had already for some time been unable to do any such work as his occupation peremptorily required. The cause of this was, that the inguinal canal and the abdominal ring of the affected side were so much extended and enlarged, that the best-fitted truss could not retain the contents of the hernia. For, after any severe exertion, a part of the bowels invariably appeared before the pad.

On the 8th of November, 1838, Wützer, after having reduced the contents of the hernia, introduced his instrument in the way above described, pushed the needle through, and screwed moderately the covering plate against the cylinder. This procedure was quickly performed; the pain at the perforation of the needle was but momentary and slight.

The patient slept well during the following night, his pulse remaining quiet. On the 10th of November, there was slight pain, occasioned by touching the parts which were pressed by the covering-plate. The covering-plate was now a little more tightened. During the following days not the least symptoms of fever appeared, no pain in the bowels, and consequently no indication for bleeding or any antiphlogistic treatment. On the 15th of November there could be felt a hard inflammatory swelling of the soft parts around the cylinder; at the same time, suppuration had taken place where the needle had remained, and it appeared to be the right time to remove the instrument. After this had been done, the invaginated parts presented themselves entirely fixed, remaining as a firm plug in the inguinal canal. Where the needle had perforated the skin, the same was for a small space black and mortified, so that an opening was created, which allowed two probes, of which one was introduced at this opening, the other into the canal of the invaginated part of the scrotum, where the cylinder had been before, to meet each other. All the water injected into the external opening of the canal and invaginated parts flowed out at that opening, as there was now a perfect and free communication between these parts.

The patient continued to keep his bed until the 18th of November, when the cicatrization of the little wound was so far advanced as to allow him to sit up. In a short time, when the wound was completely healed, a slightly pressing truss was applied to the parts, and on the 29th of December the patient was discharged from the hospital perfectly cured, the most accurate examination showing no sign that a hernia had ever existed.

So far, the results of this operation appear to have been very satisfactory.

"When at Bonn, in the year 1850," writes Mr. Wells, "Professor Wützer showed me two of his patients upon whom he had performed the operation, one only eight days before I saw him, the other about two years before. No unpleasant symptom had followed in the first case, which was going on well, and in the second a radical cure had been effected. In reply to a question I lately addressed to the professor as to the numerical results of his operation he says: 'I am not able at present to give you the statistical results of all the cases upon which I have operated, as I have not time to collate them. I can now only say that, since the autumn of 1838, I have repeatedly practised my operation in the Klinik every session before many witnesses, and that I have never seen severe peritonitis follow it, still less any fatal result. All those operated on have not been cured. In

several relapse followed, but this was traceable either to the patient's leaving off the truss too soon, or undertaking very hard bodily labour soon after the operation.' When at Vienna last year, Professor Sigmund informed me that he had performed the same operation nineteen times in the great hospital of that city, a successful result following in fifteen cases. In two cases gangrene of the integuments followed, and in two others relapse occurred after some weeks, but no death had happened. Professor Rothmund, of Munich, has published the result of his operations on the same plan in the hospital of that capital. He had operated thirty-five times in thirty-two cases, in two years and a half, and no death had followed. His results are almost uniformly successful; but I am informed by a gentleman who wrote to me lately from Munich, that these statements are not deserving of very great weight, as the patients were not watched long after the operation to test the occurrence of relapse."

Dr. Weber and Dr. Wells have also personal experience to offer.

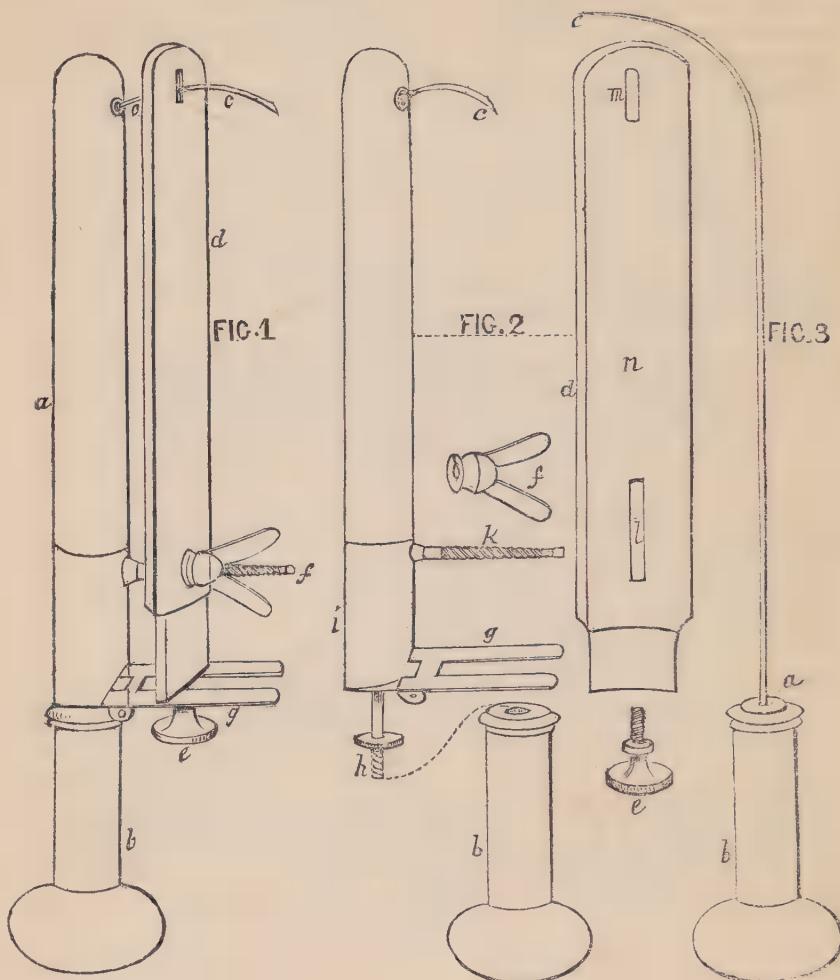
"During the time that I held the appointment of Assistant-Physician to the Emigrant's Hospital at Ward's Island," writes Dr. Weber, "I had occasion to try Wützer's operation four times. Two of these cases were properly cured, one was relieved so that the bowel could be retained by a truss, and one was cured."

Mr. Wells tells us that he assisted Dr. Burmeister in performing this operation at Malta, in 1847. "Dr. Burmeister's patient," he says, "was a gentleman 28 years of age, who had suffered for about eight months from oblique inguinal hernia on the right side. The external ring was dilated, but the intestine had not descended into the scrotum. The inguinal canal readily admitted an ordinary-sized finger. The patient was strong and healthy. He objected very much to wear a truss. No dangerous symptom followed the operation. The patient remained in bed eight days, and was confined to his room a fortnight longer. He afterwards wore a truss for four months. It was then left off, and he had not had any recurrence of the protrusion a few months ago when I heard from him, upwards of six years after the operation.

"I have since performed this operation myself in two very similar cases; one in the year 1848, and the other in 1850. One patient was a naval officer, the other a groom, their ages being 18 and 20, and the hernia of recent formation, both oblique inguinal on the right side. Complete success followed, and although both patients were accustomed to very active exercise, no return whatever of the hernia has taken place."

This operation, perhaps, is not altogether without risk. Indeed, a case is reported as having occurred at Antwerp, in which the patient fell a victim to peritonitis. But this was a cachectic person, on whom the operation ought never to have been performed. There is no doubt, however, that in many cases the operation does what it professes to do; and there is also reason to believe that where it cannot effect a radical cure—as when the hernia is large and old, the canal obliterated, and the ring dilated—it will so far diminish the size of the ring as to render it possible to wear a truss with effect. The operation, indeed, appears to be one of great

value; and the medical profession of America and England is under considerable obligation to Dr. Weber and Mr. Wells for having brought the subject forward.



#### EXPLANATION OF THE FIGURES.

FIG. 1 represents the complete instrument, called Invaginatorium Herniale. *a*, cylinder, with its anterior end becoming smaller; *b*, handle of the needle; *c*, curved point of the needle, passing out of the anterior opening of the cylinder, and through the anterior opening of the plate, which covers the cylinder; *d*, the covering-plate itself; *e*, the screw which fastens the posterior end of the plate to the forked pedestal; *f*, the screw which presses down the covering plate against the cylinder; *g*, the forked pedestal, the slit of which receives the posterior end of the plate; a hinge unites a metal covering of the posterior end of the cylinder. The metallic parts of the instrument are to be made of a non-oxygenizing metal, with the exception of the needle, which should be of steel.

FIG. 2.—The instrument taken apart. *a*, The cylinder, made of box-wood or ivory; upon the upper surface of the anterior end is a small-round opening, in which terminates a metallic canal, running through the middle of the cylinder, and made for the reception of the needle; *b*, handle of the needle; *c*, point of the needle; *d*, the plate, made of the same material as the cylinder; *e*, the screw which fastens the plate to the pedestal; *f*, the screw which presses the plate against the cylinder; *g*, the forked pedestal

for the reception of the screw ; *h*, the posterior end of the needle, with a metallic screw taken from the corresponding end of the handle (*b*) ; *i*, the metallic covering of the posterior end of the cylinder for fastening the pedestal (*g*) and the staff (*k*) ; *k*, metallic staff for the reception in the opening (*l*) of the plate ; *l*, the posterior or oval opening of the plate ; *m*, the anterior oval opening of the plate for the reception of the needle ; *n*, the upper surface of the plate, a little convex.

FIG. 3.—The needle of steel, with its wooden handle ; *a*, the posterior end of the needle, screwed into the handle ; *b*, handle ; *c*, curved three-edge point of the needle.

All of the figures are one-half the original size.

*Pathological and Surgical Observations, including a short course of Lectures delivered at the Lock Hospital, and an Essay on the Surgical Treatment of Hemorrhoidal affections.* By Mr. HENRY LEE, Surgeon to the Lock Hospital, Assistant-Surgeon to King's College Hospital, &c. (8vo, Churchill. 1854.)

This volume contains papers on various subjects, some of which are reprints of papers which have been noticed in former volumes of 'The Abstract.' Of this number are the papers on the causes and consequences of inflammation of the veins, of suppuration in bone, and of long continued pain in bone. Another, and very valuable, paper on the treatment of hemorrhoids, we have found it more convenient to notice in a former page of the present volume (p. 167). We must not omit to say, however, that these papers are not mere reprints, and we must especially notice that, in the introduction, Mr. Lee advances much additional evidence in support of his doctrine, that different morbid secretions have the power of determining stagnation and coagulation of portions of blood in the living body, and that in the portions of blood so separated, other changes may take place which may communicate irritation and inflammation to surrounding parts.

The great part of the contents having been thus anticipated, we are left to notice the short course of lectures on syphilis delivered at the Lock Hospital, and this we are very glad to do. We are glad to do this, because there is much novelty and sound sense in the views therein propounded.

These lectures, which are six in number, treat chiefly of the differences of venereal sores, of the manner in which the virus is introduced into the system, and of syphilization.

Mr. Lee divides venereal sores into two great groups—*the infecting*, and *the non-infecting*, and he appears to have very good reason in this division.

(a) *The infecting sore* is the true chancre of Hunter.

"In this case, the infected part becomes callous and indurated, exuding from its surface a thin serous fluid during its early stages, and at no period furnishing a free secretion of well-formed pus until it has lost its specific character—until, in fact, it is undergoing the process of repair. Up to this time, the actions in the part are very sluggish ; the appearance of the surface of the wound may undergo changes in colour, depending upon the appearance or disappearance of successive crops of granulations ; but the specific and peculiar induration so characteristic in this form of disease, remains for days, and sometimes for weeks, without any very apparent alteration."

This kind of sore *is not accompanied by suppurating bubo*, except in cases where there is a marked strumous disposition to enlargement and suppuration of the glands, or where the original sore has been irritated by too frequent cauterizations. The glands, as a rule, are but slightly enlarged; and "they afford the sensation of small circumscribed oval, or almond-shaped bodies, perfectly distinct from each other, unaccompanied by redness of the skin, which moves freely over their surface. It often happens that only one such gland can be felt."

And when, owing to the causes mentioned, the enlargement is greater, and runs on into suppuration, this suppuration is not specific. The matter is not inoculable. This somewhat startling statement is illustrated by a case occurring in King's College Hospital, which is this:

"A patient, thirty-two years of age, applied on the 17th of October, with a large circular and indurated ulcer on the finger. It had existed, he stated, for four months, and was considerably larger than a shilling. Some well-marked syphilitic spots were appearing on his forehead and shoulders. He had never before had any similar disease, and had contracted his present affection, having exposed himself to contagion, after having burnt his finger with some quicklime. On the arm, above the elbow, and immediately on the inside of the biceps muscle, was an enlarged gland, over which the skin could be moved freely. In front of the biceps were two very small rounded masses, probably enlarged lymphatic vessels. On the 19th of October, a fine needle was introduced nearly through the largest gland on the inside of the arm. Had the gland contained any inoculable fluid, we must suppose that some of this would have been let out, and that it would have contaminated the surrounding parts. The patient was now admitted into King's College Hospital, where some of you had the opportunity of seeing him. On the 21st, two days after the puncture, no result had appeared from the experiment; and, on the 24th, there was still no result; nor has any appeared since that time.

"As far as this experiment goes, it tends to prove that which was before deduced from clinical observation; viz., that the chronic enlargement of the inguinal glands, which accompanies an indurated chancre, does not depend upon the presence in those glands of any inoculable matter."

This sore owes its infecting characters to its indurated and callous base, and this may be easily understood. This base, indeed, is formed of a living fibrinous plasm in which the germs of the virus grow, and from which they pass into the blood circulating into the part, and thence into the circulation generally.

(b) *The non-infecting sore* is very different to the infecting sore.

"The changes produced in the inoculated part are much more rapid; we have not the same condition of parts, upon the first appearance of the disease, for two days in succession. The ulceration rapidly increases. It is surrounded by more or less inflammation, and the parts are generally painful. The surface of the sore presents an irregular and ragged appearance, as though it had been eaten away; the parts, of which it is composed, are in a state of continual change, the surface which may be seen one day has disappeared, or is disappearing the next;

fresh parts occupy its place, which, in their turn, disappear in a similar manner. During the time that this action is going on at the seat of the primary disease, the glands in the groin, upon the affected side, will become painful, and the patient will complain of feeling stiff upon that side. In a day or two, the glands will be enlarged, and the pain will have increased. The skin covering them will then become red; and they now can no longer be distinguished as separate tumours, because the surrounding parts have become involved in the thickening. Within a few days from the first appearance of the swelling in the groin, the skin covering it will have assumed a deep red colour, which gradually fades into the colour of the surrounding parts. The inflamed structures are excessively painful, and remain so until the inflammation terminates in suppuration."

*The suppurating bubo is almost a constant accompaniment of this form of the non-infecting sore.* This suppuration, moreover, is specific in its character—at least, that part which proceeds from the gland itself.

"The pus which first forms, or at least, which first presents itself—which first *points*, is usually derived from the cellular tissue around the affected glands. This pus possesses no specific qualities; it cannot be inoculated so as to produce a syphilitic ulcer upon another part. But there is a fluid, more or less puriform in character, which is derived from the affected glands themselves; this may, with tolerable certainty, be inoculated, and it will give rise to a characteristic pustule, identical in appearance to that which would be produced by inoculating the secretion from the surface of a common syphilitic ulcer. These two fluids, so different in their actions, can only be distinguished at the time when suppuration is first established. As soon as the matter within the gland becomes discharged, it mixes with the pus from the surrounding parts, and often renders the whole capable of being inoculated, and consequently the whole surface, exposed, becomes a syphilitic ulcer."

The virus, as virus, passes along one of the lymphatics from the original sore to the gland, as is proved by the fact that specific inflammation, and its consequences, may be produced at any part in the course of the vessel as in the gland. Mr. Lee insists upon the fact, that the virus rarely extends to lymphatic glands beyond those which are first in the series as regards the primary sore, and upon this ground he argues that the gland must have the power of eliminating or destroying the virus; but it seems to be as easy, if not easier, to suppose that the virus is destroyed in the *destruction* of the gland, as it is destroyed in the destruction of the sore under consideration, and in the two varieties of sore which have yet to be noticed.

These two other varieties of the non-infecting sore, are those in which the characters of suppuration and sloughing preponderate respectively. In the one the secretion from the first consists of well-formed pus, and the surface from which it proceeds is even and regular. There is no induration except that which belongs to a granulating surface. In the other, the infected part passes at once into mortification, or into that modification of this condition which is called *phagedæna*. *In neither variety is suppurative bubo present.*

Now the reason why these three forms of venereal sore are non-

infecting, is this: They do not possess that indurated basis which is the formative nidus of the virus, and more than this, their process of destruction is so rapid that the virus has not time to become developed. Destroying the tissues with which it comes in contact, the virus itself perishes in the destruction for want of those materials and influences which would be supplied if the part continued to live.

But is it true that these sores are non-infecting? Mr. Lee supplies the answer. He says:

"In looking over my notes of cases which have presented themselves at this hospital within the last year or two, I have collected together and arranged in a tabular form forty-nine consecutive cases of suppurating bubo. Of these, five only are recorded as having been accompanied, or followed, by any secondary affection during the period that they remained under observation. In one of these five, there was a distinct history of previous disease, both primary and secondary. In another, the cervical glands were enlarged, and the suppuration in the groin may, therefore, probably have been of a strumous character. In two cases, the secondary eruption was tubercular:—an affection most obstinate in its nature, very liable to recur after having once disappeared, and comparatively seldom occurring as the first symptom of cutaneous disease. These, then, I regard, in all probability like the first of the five cases, as the result of some previous syphilitic infection. This analysis would thus leave only one case out of forty-nine in which a suppurating bubo was apparently even followed by secondary symptoms. In this exceptional case, the secondary eruption appeared a month after the occurrence of the bubo, and may, like the others, have depended upon previous disease.

"On the other hand, I have collected and tabulated in the same way thirty-one consecutive cases of secondary syphilitic eruption. In one only of these cases does the history afford any mention of a suppurating bubo, and in that one case the history is not satisfactory upon the point. Had the notes of cases of other years been collected and tabulated in the same way I do not doubt that they would have afforded similar results. Such facts appear to establish indisputably the proposition that the chances of the infection of the system in cases of syphilis are inversely in proportion to the degree of irritation and inflammation of the absorbent vessels leading from the primary seat of disease. As this doctrine may probably appear to many to be contrary to the opinions usually entertained, I have thought it well for the satisfaction of others to collect some independent evidence on the point; and for this purpose I have used the register of the Lock Hospital, which is kept by the house-surgeons as they successively come into office. I find here recorded eighty consecutive cases of suppurating bubo. Of these, eleven are recorded as having had some other syphilitic affection besides the strictly primary disease during the time that they remained under observation. In four of these cases, this affection consisted in condylomata alone. In four, of a tubercular eruption, and in three of psoriasis. It is to be remarked that here there is an entire absence of any mention of the presence of lichen, or lepra, affections of the most common occurrence, as first presenting themselves after infecting syphilitic sores. The condylomata, especially when they occur in female patients, are of such doubtful origin that

they cannot be received as affording any evidence of the affection of the general system, at all events as a consequence of the primary affections with which they are associated. Omitting, therefore, the cases in which they have been mentioned as occurring without any other symptom of constitutional disease, we have seventy-six consecutive cases of suppurating bubo from all causes, and in these mention is made of secondary affections in seven only.

" The presence of secondary symptoms in this small proportion of cases may with justice be attributed to the recurrence of previous disease, and not to the primary affection which caused the suppurating bubo. This view is materially supported by the kind of eruption observed. In four out of the seven instances the eruption was tubercular, agreeing in this respect with the results obtained from my own case-books. The facts presented in both collections of cases, therefore, point to the conclusion that, in the comparatively rare instances in which secondary syphilis is found in conjunction with a suppurating bubo, that it depends upon the system having been infected previous to the disease which has given rise to that suppuration. The strongest proof, however, to my own mind, of the truth of this doctrine, so full of practical value, is, that having directed my attention to the subject for a considerable time, and having called the attention of the pupils to it both here and at King's College Hospital, I have not been able hitherto to find a single case in which a primary sore had clearly given rise to a suppurating bubo, and, at the same time, to constitutional syphilis."

It must always be remembered, however, that an infecting sore may become non-infecting, and that the system may have been poisoned before the occurrence of this change. It is of extreme importance to ascertain whether this has been the case, for, if not, we may neglect to give mercury in a case where it is necessary, which it always is in the infecting sore.

From observing the fact that there is least chance of constitutional disease where the absorbent glands are most affected, Mr. Lee is led to conclude that the absorbent vessels are not the channels by which the syphilitic virus usually effects an entrance into the system; and he devotes considerable time and ingenuity to disprove this doctrine of the Hunterian school. In order to do this, he enters into general physiological considerations on the subject of absorption, and in the end he arrives at the now-recognized conclusion, that the blood-vessels are the active agents in absorption. Mr. Lee thus explains the process:

" When syphilitic inoculation takes place in a healthy person, and the regular course of the disease is not interfered with, two distinct processes may be recognised; one, that by which the affected tissues become infiltrated with lymph; the other, by which this effused matter is removed. This latter result may be accomplished by sloughing, by ulceration, in the natural process of growth, or by different modifications of these. But, beyond the parts immediately involved in these processes, other actions are going on of a more subtle nature, and not so easily appreciated by our senses. In the absence of more positive knowledge, we may ascribe these to the molecular changes in the nutrition of the surrounding parts. That such actions are in active operation beyond

the parts where any visible or sensible change has taken place, may be readily demonstrated, although we may be unable to define their exact nature. Were this not the case, we should have nothing to do in the case of a primary syphilitic sore but entirely to remove the ulcerated and indurated tissues, and the disease would, as far as the part is concerned, be at an end. Experience proves that such is very far from being the case. When a syphilitic sore is removed by excision, as may readily be done when it is situated on the extremity of the prepuce, the cut surface will in a few days take on the specific action. This I have verified even when the greatest care has been taken not to allow any of the other matter from the chancre to come into contact with the cut surface. Such an action taking place in a part apparently healthy, at some little distance from the original sore, presupposes some antecedent change in the tissues in which it originates—a change produced by the infecting poison, but not capable of being appreciated so long as the diseased action had its development in its original situation. As soon, however, as the first centre of the morbid action is removed, a similar disease is induced upon the neighbouring cut surface. The observation of such cases demonstrates the existence of a subtle morbid process beyond the parts at first sensibly affected, and necessarily producing some change in their nutrition.

"It appears under these circumstances much more in accordance with that which is known to happen in the case of the absorption of other poisons, to suppose that the blood circulating through the tissues in which these morbid actions are going on is directly influenced, than to refer the symptoms to the passage of the poison primarily through the absorbent system. When the constitution becomes affected in consequence of the inoculation of the vaccine or the variolous poisons, the lymphatic glands appear certainly to perform no essential part of the process. Few indeed have thought it necessary to invoke the aid of the absorbent system to account for the action of these poisons upon the animal economy; and I believe that it is equally unnecessary in the case of the poison of syphilis."

Mr. Lee devotes considerable attention to the subject of *syphilization*, and gives an excellent account of the various historical facts, which will be found in a former volume (vol. xvi. p. 333); and we now recur to the subject only to notice Mr. Lee's individual opinion regarding it. This opinion, then, is not very clearly expressed. He is clearly not favorable to the practice, but he allows the facts contended for, to a greater or less extent. He allows the statement of M. Auzias de Turenne, that syphilis may be communicated to the lower animals. He also allows that the system may be so far modified by repeated inoculations as to be to some extent insensible to further infection.

"A person," he says, "who has repeatedly contracted primary syphilis is in some measure placed under the same circumstances as a patient who has been repeatedly inoculated artificially; and we possess sufficient evidence, derived both from observation and experiment, to show that, under such circumstances, the local disease is altered in its characters, and that no additional constitutional affection is likely to be induced."

For the same reason he thinks that the Portuguese, as a nation, are less sensible to syphilis as compared with the insufficiently "poxed" English. Mr. Lee in no degree recommends the practice of syphilization, but he shows very clearly that it is less baneful than might have been supposed. He shows, indeed, that persons already suffering from syphilis, who are the persons on whom the operation of syphilization has been practised, are not likely to have their constitutions more impregnated with the virus, and for this reason, that in them, the operation of inoculation will invariably give rise to this non-infecting variety of the venereal sore.

In conclusion, we would cordially recommend these views to the attention of our readers.

1. *Practical Observations on the Operation of Lithotomy.* By JOHN CRICHTON, Esq., of Dundee. ('Medico-Chirurgical Review,' July, 1854.)
2. *On the Relative Merit of the two Operations for Stone; two Lectures delivered at the Royal College of Surgeons of England,* May, 1854. By F. C. SKEY, F.R.S., Surgeon to St. Bartholomew's Hospital. (Svo, Churchill, pp. 55, 1854.)

The paper and lectures which are here quoted claim very serious attention on the part of the practical surgeon. Mr. Crichton is the advocate of lithotomy, and no one can have better reason for his preference, if long and successful experience be a reason for anything. He, also, has especial reason for his preference; for he shows that the operation may be performed with perfect success in cases where it had been supposed to be contra-indicated by the presence of organic disease, and where the patient has been allowed to linger long in his sufferings without any assistance. Mr. Skey, on the other hand, pleads very successfully in favour of lithotomy. He, also, does much to simplify this operation, and to lessen its inconveniences. Among other things, he points out a ready way in which the stone may be caught without the least possible injury to the bladder; and he shows that the symptoms of vesical irritation, which so frequently supervene upon the operation, are best dispelled by repeating the operation. In different ways, indeed, Mr. Crichton and Mr. Skey do much to extend the resources of operative surgery in a most distressing and frequently recurring malady.

1. Mr. Crichton's paper, which appears as an original communication in the 'Medico-Chirurgical Review,' is possessed of very remarkable interest. It is sixty years since this gentleman first operated for stone; and in the interval he has operated in upwards of 200 instances with unprecedented success. Of this number, indeed, many of very unfavorable character, not one appears to have died as a direct consequence of the operation. Fourteen died at longer or shorter periods afterwards, but in every case death happened from concomitant diseases of the head, or thorax, or pelvis.

This remarkable success does not appear to have been owing to any peculiarity in the operation.

"Upon various occasions," writes Mr. Crichton, "I have been asked whether I employed any particular method or instrument in operating, which might account for the continued successful results; and if so, why not make it public? I could never say I had any particular method. But perhaps a short statement of the last case that occurred, and which is fresh in my recollection, may best serve as an answer. This took place on the 7th of May, this present year, in a delicate boy, eight years of age, who had been affected, more or less, with symptoms of calculus from his earliest infancy, but latterly his sufferings had become so extreme as to induce his parents to submit him to an operation for relief. After introducing the staff—which, I must say, was held most steadily in the proper situation by Dr. Arnott—I commenced the incision deep in the perineum, by the side of the raphé, eight or ten lines in front of the anus, gradually lessening its depth as it passed between the anus and tuber ischii onwards to its termination; then introducing the forefinger of my left hand into the deep superior part of the wound, and pressing its point in front of the apex of the prostate, I pierced the urethra with the knife, and carried it onwards in the groove of the staff, directed and supported by the finger, so as to divide the prostate obliquely outwards, and downwards nearly in the direction of the external wound. Next, feeling the stone with my finger, I withdrew the knife, and introducing the forceps, I withdrew the staff,—all which was the work of a few seconds. But a difficulty now occurred, for after grasping the stone, and attempting its removal, it slipped from between the blades. The same occurrence taking place after two or three seizures, I judged there must be something uncommon, and, withdrawing the forceps, I introduced my finger in order to ascertain the cause, and found the stone, as before, close under the opening, but extending further backwards than my finger could well reach. Instead, therefore, of reintroducing the forceps, I made use of the scoop, passing it onwards till it reached the further extremity of the stone; then insinuating my finger gently underneath the fore-end, I raised it up to the opening, and, with the bent end of the scoop behind, drew it easily forward, and in a moment the stone was in my hand.

"The boy made a rapid recovery, and soon acquired flesh and strength. Upon examination the stone was of an unusual shape, measuring four inches in its longest circumference, and one and three fourths in its shortest. The two or three minutes occupied in manipulation with the finger and scoop was abundantly recompensed by the easy and safe removal of the stone, which, on account of its position and great length, could hardly have been accomplished by the forceps without breaking it or injuring the bladder."

Before operating at all—of his first operation, a most graphic account is given—Mr. Crichton read, and investigated, and cogitated, and in the end he tells us—"I got my mind disentangled from the conflicting opinions and directions of writers on the subject, and formed my own opinion;" and this undoubtedly is the rational explanation of his success.

The instrument used has been a gorget, modified by narrowing the breadth, and giving greater slope to the cutting edge.

"Latterly, however," he says, "in boys, and those who do not appear to have a deep pelvis, or enlargement of the prostate, I have dispensed

with the use of it, carrying the same knife, after penetrating the urethra at the apex of the prostate, onwards, directed and supported by the index finger of the left hand, thus rendering the operation more simple in the saving of time by lessening the number of instruments, and enabling me often to have the stone in my hand within the minute.

"But, in those having a deep pelvis, with much hypertrophy of the prostate gland, rendering the bladder inaccessible to the finger, I think it most prudent to revert to the use of the gorget or probe-pointed bistoury."

Mr. Crichton says that he has experienced little difficulty in grasping and extracting the stone; and that he had only on two occasions been obliged to break the stone previous to extraction. He has never lost a case from hemorrhage, abdominal inflammation, or urinary infiltration; and—what is a curious fact—the wound healed by first intention in twenty-three instances.

These facts are all of great interest; but the fact which is of peculiar interest, and to which we invite especial attention, is Mr. Crichton's opinion and experience in reference to the performance of lithotomy under unfavorable circumstances. What this opinion and experience are will appear in the following quotations and cases—the cases being taken without selection from nine of the same kind:

"Sir Astley Cooper says in his lectures," writes Mr. Crichton: "If the bladder is ulcerated, do not perform the operation on any account, for it will not be successful. But especially never submit a patient to the operation for stone if there be the slightest affection of the chest—the least difficulty of breathing—any sign of asthma, or any irregularity of circulation. No person who has any regard for the safety of his patient or his own reputation as a surgeon, will ever operate for stone unless the chest be free from all complaint. You hear of one surgeon being exceedingly successful in the operation for stone, and of another less so. The cause of it is this: the one is careful to select his cases; he puts aside all those who have any other affection, and tells them to wait, and only submits those to the operation who are free from any other disease."

"Many practitioners are too ready to be swayed by such dicta, and, through fear of an unsuccessful result, allow their patient to remain unrelieved. But what is to become of patients suffering under stone, who happen at the same time to have these objectionable affections? Are they to be allowed to linger out a miserable existence in torture, without hope of relief, crying for death to put an end to their sufferings? For my own part, I have never been able to reconcile such doctrines with humanity or professional duty, but from the first have always operated upon every case that presented, whether considered by others favorable or not. Neither have I found my professional reputation suffer thereby. On the contrary, I have, in various cases, experienced the satisfaction of seeing affections which were considered insuperable objections to an operation gradually give way after the pain and irritation occasioned by the stone was removed. A few instances, from amongst a number of others, will serve to illustrate this."

CASE 3.—Mr. Peter Bruce, æt. 45, residing at Errol, was brought, in the

month of May, 1817, to a lodging prepared for him, wrapped up in blankets, and lying on a bed suspended by its four corners fastened to the posts of a cart. His countenance was ghastly in the extreme, and his flesh wasted away to a skeleton. He had been suffering for many years under symptoms of calculus vesicæ, and had been visited by several medical practitioners from this town, as well as from Perth, who all agreed in opinion that no good could result from an operation, as the urinary organs, particularly the prostate gland, were all in a diseased state. Issues in the perinæum and verge of the anus, and medicines of various sorts, were prescribed, but without benefit, and his friends were ultimately informed that his case was utterly hopeless, and could only be palliated by opiates. For the last six months he had, in a great measure, been confined to bed, being unable to sit upright, constantly straining to void his urine in great agony, and, to all appearance, was fast sinking. Hearing, from various quarters, that I had been very successful in the treatment of similar disorders, he became exceedingly anxious to place himself under my charge, and had himself conveyed into town in the manner mentioned. Upon examination the following day, besides detecting a stone, I observed a great bulging of the bladder, compressing the rectum in such a manner as hardly to admit the passing up of the finger. After soothing and cheering him as much as possible by the hope of a speedy relief to his sufferings, I, a few days afterwards, extracted a large rough stone, weighing upwards of six ounces, which he bore with great composure. He passed the remainder of the day and following night quite easy and free from pain, the urine coming freely and plentifully by the wound without straining, and on the morning he took his food with a relish and lightness of heart he had long been a stranger to, and went on so well as to find himself able, on the eighth day after the operation, to be removed in a sedan chair to a friend's house in the suburbs, where he enjoyed superior accommodation, and a green to saunter about in, until he found himself sufficiently strong to return to Errol and attend to business. About a twelvemonth afterwards, happening to be in that neighbourhood, I called at his house, and found him looking so stout as hardly to recognise him. Both he and his wife received me with the kindest expressions of gratitude, withal setting before me a large dish of rich clotted cream, which they had heard I so much delighted in, and to which I certainly did all manner of justice.

CASE 4.—William Powrie, æt. 45, was conveyed from the parish of Liff to the infirmary here, having been for many years affected with dyspnœa, palpitation of the heart, frequent attacks of asthma preventing his lying down in bed, cold extremities, &c., at same time suffering severely under symptoms of calculus vesicæ. He was detained in the infirmary two months, to ascertain if his sufferings could be any way removed by proper treatment, but the pain from the stone becoming still more urgent, and his other affections continuing unabated, it was decided to write to his friends to get him conveyed home as incurable. The poor man pleaded hard to be relieved from the stone, whatever might be the consequence, but the surgeon then in attendance still refusing to operate under such unfavorable circumstances, I offered to take the responsibility, which being assented to, I, on the 7th July, 1824, extracted a mushroom-shaped calculus with great ease by the lateral operation. He made a rapid recovery, and, what was particularly remarkable, after removal of the stone the objectionable affections gradually abated, and four weeks after the operation he walked home without assistance, a distance of five miles, in perfect health and spirits.

CASE 5.—James Richardson, æt. 45, was brought down from his residence in Perth by the steam-boat, bearing a letter from several benevolent persons

there, recommending him to my care, and stating that they would be answerable for any expenses incurred. I went down with the messenger to the boat, and found a poor, emaciated, ghastly-looking object straining, with agonising pain, to void his urine. I desired he should immediately be conveyed up to the infirmary; and learned from him that, eleven years ago, in consequence of a fall from a height, he had been affected with severe pain of the back and left side, accompanied with bloody urine, which confined him to the house for several weeks; since which period, he had several attacks of the same complaints, with the addition of passing quantities of sand and small stones to the amount of two hundred and seventy-five, many of them the size of large peas. He had also inguinal hernia of both sides, with cough, expectoration of muco-purulent matter, dyspnoea, to such an extent as often to prevent his lying down in bed; and for the last twelve months had been suffering under symptoms of calculus vesicæ, which of late had been beyond endurance. Notwithstanding all these unfavorable accompaniments, I considered it my duty to operate, and on the 24th July, 1824, I easily extracted a rough, flat stone, weighing nine drachms, by the lateral operation, and two months afterwards he went home in great spirits, quite cured of all his calculous complaints, and nearly free of the affections of the chest. The following year, happening to be on a professional visit to Perth, he recognised me in the street, and told me, that soon after leaving the infirmary, he felt himself able to resume his occupation, and had never been a day off work since.

2. Mr. Skey's lectures are occupied with a comparison of lithotomy and lithotripsy, in which the advantages are shown to belong to lithotripsy, when the two operations can be put in comparison. Lithotomy is certainly the more dangerous operation of the two; and this fact is urged as the great objection against it. Lithotripsy is less dangerous, and more easy of execution than is supposed, and hence an additional reason in its favour.

We do not quite understand whether Mr. Skey would abandon the knife altogether in operations for stone, except in peculiar cases—as, where it is necessary to extract a piece of a lithotrite which has broken off in the bladder, and so on. He would not use the lithotrite when he had to do with a very large stone; where symptoms of vesical or renal disease were present; where the urethra was insufficiently dilatable; or in the case of children; but he does not say very plainly what he would do under these circumstances. He says, "if the stone be present with these indications, if relief must be obtained, it is preferable to resort to lithotomy, because it presents the better prospect of a successful issue."

It is not necessary that we should follow Mr. Skey through the long catalogue of evils connected with lithotomy, the whole of which is very generally known; or that we should labour to remove from lithotripsy the several charges which are really due to the want of dexterity in the operator, or to his having undertaken the operation in unsuitable cases; and we will therefore pass to the operation itself, and to one or two points in the preliminary and after treatment, which have struck us particularly. In doing this we would direct especial attention to the mode of catching the stone, and of treating that vesical irritation which comes on so frequently after the operation; for, unless we are mistaken, these are two points of extreme practical importance

—points which, if attended to, will do much to obviate the inconveniences of the operation, and remove the objections that at present apply to it.

“The operation,” writes Mr. Skey, “may be undertaken in a sitting or a bed room. If in the former, the patient may be placed in a nearly recumbent position, on a sofa or on an easy chair. Yet these are both objectionable. In operative surgery, we are too prone to be indifferent to the comfort and convenient position of ourselves; our operating tables are too low, or too high, or too broad. In a protracted operation no evil to the surgeon can be greater than a low bed or table. Ease of position is a great desideratum to the surgeon. The objection to a sofa or an easy chair is partly of this description, and partly that of want of length. If a sofa, with the patient lying lengthwise, the operator is in a false position. All the trunk, from the dorsal vertebrae downwards, should be horizontal, and, indeed, a small firm pillow under the pelvis is often desirable. There is no support, in my opinion, superior to a four-post bed, across which the patient should be placed, with his pelvis brought to its edge, and his back supported on the inclined back of a chair, the upper bar of which should reach to his loins, and between which and the chair so reversed, a pillow may be interposed; the legs separated, and each foot supported on a chair. At the first operation the presence of an assistant is desirable. A large-sized catheter is introduced into the bladder. The advantage of a *large* catheter is that of fully dilating the urethra, and thus of admitting the lithotrite with less effort. Warm water of about the temperature of 98° should be slowly injected to the extent of four or five ounces. If there be a tendency to expel it, a cessation of a minute should be permitted, and then resumed. If time be thus given, the bladder will rarely fail to retain the requisite quantity, and the expulsive efforts will rarely continue after the lithotrite has reached the bladder. This instrument is now passed as gently as the force for its introduction permits, the penis being forcibly drawn up over it. When the angle reaches the entrance of the bladder, and the shaft lies nearly horizontally in the hand, some force is required to complete the introduction, in consequence of the want of adaptation of curved urethra to the straight instrument, but it is not painful.

“Under ordinary circumstances, unless the penis is unusually retracted, nearly the entire shaft up to the screw apparatus, should be lost to the view, and then, and not till then, will the instrument move readily in the bladder. The blades are expanded by the thumb, when the transverse bar or lever is unscrewed to the end and fixed by the nut. In opening the blades, this rule appears to me important, to make each blade move equally from the centre between them, pressing the instrument forwards at the same instant that the near or convex blade is withdrawn. By this movement we avoid the painful pressure of the instrument against the neck of the bladder. If the neck of the bladder is touched by the blade, a start or a movement, and an expression of suffering, invariably follows. The stone is now to be caught by the lithotrite; but in what manner? There is but one mode compatible with safety, and which is not only the safest but the surest. The instrument is not to be employed as an explorer to follow the stone to its hiding-place in the bladder, but the stone should be brought to the instrument. If we would

avoid danger, or at least so near an approach to danger as is comprised in the liability to seize the mucous membrane of the bladder, we should rigidly follow this important rule of action. It must be obvious that to protect this delicate organ from injury, the quantity of fluid I have proposed to inject is perfectly inadequate, if we are to carry the point of the instrument in all directions, twisting it to the right, then to the left, and then round to the back. I am persuaded that four or five ounces of water is all that the majority of bladders, so conditioned, will contain; and double this quantity is scarcely sufficient for perfect safety unless this rule be strictly observed.

"If, on having expanded the instrument, the lower blade be pressed downwards towards the rectum, by the elevation of the handle, the bladder will assume a conical form, the apex of which is directed downwards. Into the apex of this cone the stone will fall *three times out of four*, and I believe I may say in a yet greater proportion. I have myself caught the stone on one occasion ten times in succession, and I have repeatedly fixed the stone nine times, the blades being expanded and closed twelve. No action can be more simple, or more easy of execution. If the stone adhere to the coats of the organ, or if it fail, from any other cause, to fall into the concave blade, a slight shake of the instrument, or, what is less annoying to the patient, a slight shake given to the pelvis with the open hand, will generally succeed.

"This mode of catching the stone is really so important as to be worthy repeated experiment on the dead subject, during which the remote blade should be pressed with moderate firmness against the bladder where it is in contact with the rectum, while the near blade is drawn out to the greatest capacity of the instrument, if the size of the stone be uncertain, and less so as it becomes reduced in size. We are indebted to the late Mr. Fernandez, jun., for the original invention of this form of successful manipulation. I consider it a sound principle, and I will go so far as to say, that unless it be adopted or superseded by a better, yet unknown, every other mode of seizing the stone is less safe, less simple, and less expeditious.

"When the stone is caught, the lithotrite should be screwed home. In the case of a person advanced in life, or with a large stone, or with an irritable and intolerant bladder, or where the operation has been painful or protracted, or there is an oozing of blood from the urethra when the stone is once broken across, the instrument should be withdrawn. If the converse of these circumstances prevail, it may be caught twice or thrice, but not more. Two minutes is time sufficient for the entire operation. The patient should be desired to retain the horizontal position, and be left perfectly quiet. No effort should be made to obtain the expulsion of the injected fluid, and, indeed, it would be needless, for the bladder, for the most part, is incompetent to the task. Some hours will probably elapse before the fluid is evacuated, and we shall not be disappointed if no fragments accompany it. This is generally the work of the second, third, or fourth day."

One especial evil connected with the operation of lithotripsy is its painfulness; another is the vesical inflammation which is so apt to follow subsequently; and upon both these points Mr. Skey gives some very valuable information.

Opium and care will do much to prevent and subdue the pain.

"It is not often that the pains are so severe," he says, "as not to be held greatly in subjection by the employment of opiates—an agent almost contra-indicated in lithotomy, at least as an anæsthetic agent; and this fact expresses all that I need say with respect to physical pain consequent on the operation, while we always possess the alternative of chloroform for the operation itself, if required."

If the pain has been unusually severe during the operation, the instrument, in all probability, has not been pushed far enough, and, on expanding, it crushes the sensitive neck of the bladder; and this pain, therefore, may be avoided by care. We would also add, that pain would be much less likely to happen if the sensible plan of not putting the patient upon an antiphlogistic regimen, which plan is inculcated by Mr. Skey, were always carried out.

The last quotation which we shall make refers to the *inflammation of the mucous membrane of the bladder*, which is a frequent consequence of lithotripsy, and to this we wish to direct especial attention.

"This inflammation," says the author, "is of far more frequent occurrence than the inflammation following lithotomy. It may follow the first, or any subsequent operation; and so far as my experience goes, it occurs in some degree or other in the majority of all cases operated on. But in this form of inflammation we see the extent of the evil. It appears circumscribed. It does not extend to the other tissues of the bladder. It is chronic, not acute. It is attended by a certain amount of pain, often trifling in degree, by frequent micturition, indicating intolerance of the organ, and a certain well-known ropy, viscid discharge that separates from the urine, and adheres to the vessel into which it is conveyed. The intensity of the disease is determined by the quantity of this mucus, and in cases of positive severity it is occasionally tinged with blood. When it presents this feature, the pain is permanent, and often severe, and the intolerance is great. In this condition the subject of the operation may reasonably claim a large amount of sympathy. It is a curious and important fact, that these symptoms often subside immediately on the repetition of the crushing operation, as I first learnt from Sir B. Brodie, and of which fact I have subsequently witnessed many examples, among which I will cite two. I broke a stone in the bladder of a stout gentleman aged about 63. Chronic inflammation followed, attended by intolerance of urine, continued heavy pain in the bladder, immense quantities of viscid and ropy mucus, always more or less tinged with blood. Sometimes for days together the quantity of mucus exceeded that of urine. He lost appetite and sleep. His health sank, and I anticipated a fatal result. In this condition, more or less aggravated, he continued for months in spite of the employment of every remedy I could devise. By the advice of Sir B. Brodie I repeated the operation. The above symptoms subsided within twelve hours, as if by the agency of a charm, and the patient ultimately recovered without any return of the catarrhal affection of the bladder.

"I broke a stone of a moderate size in the bladder also of a stout gentleman aged about 60. Nothing could be more simple than this operation, which, as he assured me, was far less painful than the con-

traction of his bladder had frequently been on former occasions. For two days he passed little stone, on the third day he began to experience frequency of micturition, accompanied with more or less of pain and discharge of ropy mucus, but not discoloured. He resumed his bed, and felt constitutionally ill. He obtained little benefit from treatment. After four days of somewhat severe suffering, with the recollection on my mind of the former case, I repeated the operation and his pain subsided directly, while his urine resumed its healthy character. On the strength of facts like these one is almost inclined to doubt the correct pathology of this curious disease, and to ask, Is this truly inflammation of the mucous membrane? Of this condition of the bladder, be it what it may, we have, as I have already said, the frequent occurrence, and we call it inflammation. Possibly it is truly so. But whether inflammation or not, it will never be denied by the practised lithotritist, that it often subsides on the repetition of the exciting cause, and it may be safely asserted that it rarely reaches the level of an intensity incompatible with the perfect recovery of the patient."

In conclusion, we would recommend Mr. Skey's lectures to all those who are wishful to make up their minds as to the relative merit of the two operations for stone.

1. *Case of Amputation at the Knee-joint.* By G. M. JONES, Esq., Surgeon to the Jersey Hospital ('Medical Times and Gazette,' June 3, 1854).
2. *On Amputation at the Knee-joint.* By H. G. POTTER, Esq., Surgeon to the Newcastle Infirmary ('Lancet,' May 27, 1854).
3. *Clinical Lecture on Amputation at the Knee-joint.* By W. FERGUSON, F.R.S., Surgeon to King's College Hospital ('Medical Times and Gazette,' July 8, 1854).
4. *Disarticulation du Genou.* Par M. MAISONNEUVE, Chir. à l'Hôpital Cochin ('Gaz. Médicale de Paris,' Sept. 2, 1854).

It is a curious fact that three English surgeons, and one French surgeon, should have amputated at the knee-joint during the last twelve months. It is less remarkable in France, where the operation first revived, but in this country, where the operation has scarce been performed at all, it is very remarkable. It seems, indeed, to argue a change of opinion, which requires attention.

Amputation at the knee-joint had become an obsolete operation when Velpeau called attention to it, and adduced facts and arguments to show that it was no more dangerous than amputation of the thigh, and that the patient was left in the better predicament of the two. This was in 1829. The operation, however, has met with little favour, especially in this country. Chelius mentions 37 cases, of which 22 were favorable. Four published cases have occurred in this country; two (the first two) by Mr. Syme,\* one by Mr. Ferguson,† and one by

\* London and Edinburgh Monthly Journal, 1845.

† The Lancet, 1845.

Dr. Williams,\* and of these three did well, and the fourth lived for some months after the operation. Other cases, however, have occurred which have not been recorded. Mr. Ferguson says he has frequently performed it.

It would appear that amputation at the knee-joint is less fatal than amputation of the thigh. Referring to some of the particulars already stated, Mr. Potter says, "If we compare this proportion with the average frequency of death in amputation of the thigh, which has been often stated to be from fifty to seventy or seventy-five per cent., we find, even if we take the lowest average, that the result is by no means in favour of amputation of the thigh, and certainly there is nothing to call for the utter rejection of the one, and universal adoption of the other operation."

The patient, also, appears to be in a better predicament than he would be if the thigh had been amputated in the ordinary way. Thus, Mr. Jones thinks that his case "proves that great advantages result, as far as concerns progression, in this mode of amputation; there is not such an amount of lateral and outward motion required; the limb does not in walking describe the semicircular curve which one so commonly remarks in amputations higher up; the gait is more that which follows on ankylosis of the knee-joint; the limb is brought more directly forwards and backwards by the rectus and posterior extensors; the walk is consequently more firm and assured, and, as far as the trunk is concerned, there is not the same demand for compensating muscular power in steadyng and balancing the body, such as one finds in a greater or less degree in different persons. The deduction, therefore, to be drawn from this case is, that a patient is evidently benefited by preserving as great a length of femur as possible."

With these remarks, we proceed to relate the cases under consideration in the order of their occurrence:

1. *Mr. Jones's case.*—John Stokes, æt. 35, a strong, muscular, and healthy-looking man, was admitted into hospital on the 8th of October, 1853, in consequence of a comminuted fracture of both bones of the right leg, occasioned by a kick from a horse; there was a considerable lacerated wound about three inches above the internal malleolus, through which near two inches of the tibia protruded. The hemorrhage at the time of the accident was very profuse. Taking into account the man's strength and previous good health, and his sober and regular habits, it was considered, that, although immediate amputation might be the most prudent course to follow, not only on account of the nature of the fracture, but also from the injury the soft parts had sustained, still that it was a case in which an attempt to save the limb was nevertheless justifiable. The projecting portion of bone which completely opposed reduction was, therefore, sawn off, and small fragments removed. This allowed the fibula to be more carefully examined; it was fractured obliquely, and presented several loose splinters. These were removed, as also others partly imbedded in the surrounding soft textures. The leg was then placed in position, and the fracture reduced, the external wound closed as much as possible, moist lint applied, and only just sufficient appliances as were absolutely necessary to keep the limb in position. For the first four days there

\* Monthly Journal, 1846.

was but little constitutional disturbance; on the fifth, several shivering fits came on, attended with considerable restlessness and pain, much thirst, and coated tongue; pulse 110. Phlegmonous erysipelas had evidently set in from the fracture to the knee. Constitutional remedies, local applications, incisions, &c., were had recourse to. On the 16th, the suppuration was of a most unhealthy and offensive character, and escaped through the wound in immense quantity; the whole leg, every here and there, had a purple appearance, and was covered with livid vesications. On the 17th, there was great suppuration of the cellular tissue. On the 18th, the subcutaneous and intermuscular suppuration of the upper part of the leg was more abundant than ever; several sinuses, running in various directions, were discovered by means of a bougie. A counter-opening was made in one, half-way up the other side of the leg, and which evidently communicated with the others. From the 18th to the 22d, the appearance of the leg had become much more unsatisfactory, the swelling flaccid and quaggy, ill-conditioned pus welling out of the original wound, and from the counter-opening, in a stream when the parts were pressed on. Sinuses had extended from the counter-opening full four inches above the popliteal space. Notwithstanding this immense drain on the system, and the unfavorable aspect of the fractured limb, the constitutional symptoms did not by any means keep pace with the local affection; the pulse numbered less than 100, remained soft, and moderately strong; tongue moist, and but little coated; bowels regular, and urine natural. Under these circumstances, it was deemed advisable to lay the entire sinus open,—a similar procedure (on a former occasion, and in a case not very dissimilar to this one) having proved of essential advantage. It was, therefore, opened throughout its entire extent. The wound thus made measured upwards of two feet; more than a pint of fetid pus was by this means evacuated; it flowed from all parts. There was considerable hemorrhage, and one small vessel was secured, a fragment of bone removed, and some sharp splinters taken from the upper part of the tibia. The patient, during this part of the operation, became excessively weak, and was almost pulseless. From the 20th November to the 8th the slow but gradual improvement which took place gave rise to the hope that a favorable termination might be expected; there was a healthy granulating surface throughout the wound; the suppuration, since opening the sinus, had been very trifling, and of a healthy character, and the limb remained in a very fair position. Under these circumstances, however, diarrhoea set in, together with well-marked hectic symptoms. The original wound became dry, and its surrounding parts assumed an ashen colour; the foot was oedematous, and the whole of the integuments of the leg appeared completely detached from the bones. As amputation below the knee was not warranted, on account of the state of disintegrity the soft parts were in, the removal of the limb at the joint was determined on.

*Operation, Nov. 10.*—As the greater portion of the integument covering the patella had suffered materially from erysipelatous inflammation, it was thought advisable to remove as much of it as possible; consequently an incision, which commenced just over the internal condyle, was carried, in a semilunar form, over to the opposite one, where it joined, in a transverse direction, a part of the sinus laid open three weeks before, and, for the reason just mentioned, its concavity was made to touch the superior edge of the patella, the upper attachment of which was next divided while the knee was bent. The knee was again straightened, and the knife, introduced at the point where the first incision commenced, was carried downwards a considerable way along the edge of the tibia, then brought across the calf in a lunated

form, and carried upwards along the side of the fibula until it met the extreme point already mentioned; the knee again forcibly bent permitted the different ligaments of the joint to be easily divided. The fore-finger and thumb of the left hand were then used as retractors for the already divided integuments, while the palm, thrust through the soft textures of the under part of the joint, followed them, and thus completed the flap. The cartilaginous surface was next removed, and other portions pared off. But two vessels required ligature. The parts were now brought together, and kept so by means of sutures; and pledges of lint moistened with cold water were applied to the stump.

The hemorrhage during the operation was very trifling. The patient was, however, removed from the operating table in an alarmingly weak state, and continued so for several hours after, so that powerful stimuli had frequently to be given, and hot-water bottles applied to the extremities.

During the recovery, which was both tedious and protracted, the same plan of treatment was, with slight deviations, followed out. The local treatment consisted principally of the water-dressing and moderate pressure applied either by adhesive plaster or bandage. The system was supported throughout by the most nutritious diet. For two months the patient was allowed one bottle of port wine and two pints of porter per day, and bad quinine, &c., given in large doses. For upwards of a fortnight after the operation, the patient's extreme debility gave rise to well-grounded fears that death would soon terminate his sufferings; and, as may well be supposed, the appearance of the stump during this anxious period, was anything but satisfactory; the stomach, however, never once rejected the food given, even when most disinclined to take any. This one happy feature in the case was naturally soon followed by an improvement in his health, so that at the expiration of six weeks all fear with regard to a favorable termination was at an end. On the 20th February the stump was healed (it might almost have been considered so some time before), and the patient was able to move about on crutches.

The entering so fully into the details of this case prior to the operation, may at first sight appear unnecessary. My motive is to show, that the low, debilitated state the patient was in would in all probability have retarded recovery quite as much had amputation been performed through the continuity of the thigh as at the knee-joint. The time taken in effecting a cure must not, therefore, be considered as prejudicial to the operation.

The man has now a most serviceable stump, upon which he can bear the weight of his trunk in progression. A good firm cushion of muscular and integumental structures covers the extremity of the femur; it can be manipulated without the least pain. The posterior flap, formed out of the muscles of the calf, and which was brought up to cover the condyles, has united to the anterior one, and the line of their union is two inches above the extremity of the bone. The internal condyle is abundantly covered with soft structures, the external not so completely, the greater prominence of this part being in some degree apparent through the cicatrix; with this exception, the stump may be considered a perfect one; practically, I have no doubt it will, in time, prove such.

*Mr. Potter's Case.* — Harriet S., *æt.* 40, was admitted into Newcastle-upon-Tyne Infirmary on the 8th of December, 1853. She states that about twenty years ago she knelt upon a small stone, which gave her great pain in the knee. From that time until about six months ago she had severe pain, at intervals, in the joint, but was not laid up. During the last six months she has been confined to bed, and though everything seems to have been tried which was likely to do good, the disease increased, and the leg

became more and more flexed until, as at present, it has reached the utmost degree possible. Any attempt at extension gives intense pain; some tortuous sinuses run down to the bone; and there is every symptom present which indicates ulceration of the cartilages. She is very thin and hectic, and is extremely anxious to have the limb removed.

*Operation.* Dec. 13.—An incision commencing a little above the middle of the external condyle was continued across the knee, round the upper half of the patella, to the middle of the inner condyle, and ended a little above it. This incision separated the patella from its superior attachments, and opened the joint. The ligaments were next divided, and the saw introduced behind the condyles, which were with the greatest facility sawn through. The knife was now placed behind the joint, and a full-sized flap formed from the back of the leg. No difficulty was met with in any part of the operation, and the flaps came nicely together, in which position they were retained by sutures and plaster. Chloroform was successfully administered.

On examining the joint after removal, the cartilages were found to be ulcerated, and the synovial membrane pulpy.

Dec. 14th. There is a remarkable change in the countenance this morning. From the time she entered the hospital, until to-day, she has had a very haggard look; now, however, the countenance has assumed a placidity which contrasts very favorably with its previous disturbed appearance. The pulse is quiet and regular, and she rested well during the night.

From this time the case went on well, the flaps united by the first intention, the patient acquired strength and flesh, and was discharged cured on the 17th of March, 1854.

Should I again perform this operation, I would remove the diseased synovial membrane from the upper flap, because I feel convinced that this diseased structure was the cause of a discharge which continued much longer from an old sinus than would have been the case had the synovial membrane been removed.

*Mr. Ferguson's Case.*—W. M., *aet. 11*, is a native of Sydenham, and states that he has always had remarkably good health up to the time of his present illness, which began six weeks ago. After having been out sliding the whole of one day, he came home in the evening complaining of pain in both legs, more especially in the right knee, upon which he had fallen in the course of the day. In a few days after this he was seized with shivering and violent deep-seated pain in the right leg and ankle-joint, which was followed by considerable swelling of the limb, commencing at the ankle, and extending up to the knee-joint. The integuments appeared red, as if erysipelatous. His sufferings now became excruciating, more particularly if pressure were made on the limb, or if he attempted to move it. Notwithstanding the active measures employed by his own surgeon, the inflammation continued to increase, and matter formed, which soon became discernible in the soft parts. An incision was consequently made on the outer part of the ankle-joint, and about a pint of pus evacuated. A few days after this another puncture was made in the upper part of the leg, and more matter was discharged. During this time his general health had become much impaired, and he became extremely emaciated.

When admitted into the hospital, January 25, 1854, Mr. Fergusson made an accurate examination while the boy was under the influence of chloroform, and found the knee-joint much diseased, the surfaces of the bones being rough and denuded, and a considerable collection of matter in the upper part of the leg, which was evacuated.

The patient was supported by stimulants for a few days till his health was deemed sufficiently good to bear the shock of an operation.

When placed on the operation-table, under chloroform, a small opening was made a little above the knee, and a quantity of unhealthy pus evacuated. Mr. Fergusson then performed the operation of amputation at the knee-joint in the way detailed in his own work.

The state of the bones of the leg clearly demonstrated the necessity of their removal. A section being made of the tibia, the cancellous tissue of the upper part of the bone was found filled with pus, while that tissue at the lower part was necrosed, and the epiphysis separated. The articular cartilages of the ankle-joint had ulcerated, and the ends of the bones were eroded. The articular cartilage on the head of the tibia was so soft that a probe passed readily through it, and the bone was bare and carious in several spots, especially around the articulation with the fibula.

The patient rapidly improved, and was discharged cured March 11, 1854.

“As to the mode of performing the operation,” Mr. Fergusson continues, in another part of the lecture from which this case is taken, “I first make a small anterior flap, drawing the knife across the front of the joint, and then, inserting the point of the blade behind the femur, thrust it through to the other side, close to the condyles; then, carrying it downwards, cut the posterior flap from the calf of the leg. The saw is then applied a little above the condyles, and the flaps brought together as in an ordinary amputation.

“In some instances I first effect the separation of the leg at the articular ends, and thereafter cut away as much of the femur as seems needful. In all cases it is requisite to take the full length of the calf for the posterior flap, as the soft parts in the back of the thigh contract very much in the course of time. The patella might be saved in some examples, but in general I think it would be best to remove it.”

*M. Maisonneuve's case.*—Augustine Ninot, æt. 22, was admitted into the Hospital Cochin, on the 1st of March, 1854. She was suffering from a voluminous tumour of the superior and outer side of the left leg, which had developed itself, in spite of all efforts to the contrary, during the preceding six months. There was little pain, and the inconvenience was chiefly of a mechanical nature. On examination, the tumour proved to be osteosarcoma. M. Maisonneuve began the operation, with the hope that he might save the leg, but finding this to be impossible from the extended connexions of the tumour, he performed amputation at the knee-joint by a circular incision.

The first few days passed without any accident. On the 12th of March, however, when the ligature came away from the principal vessel, severe hemorrhage supervened, and it was necessary to tie the femoral in the middle of the thigh. At the same time, the wound assumed an unhealthy appearance, symptoms of putrid poisoning manifested themselves, and by these and colliquative diarrhoea, the patient was reduced to the last extremity; eventually, however, she rallied, and at the time when M. Maisonneuve brought the case before the Academy of Medicine, she had recovered her health and flesh, and was able to move about with great agility on an artificial limb.

### III.

#### REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

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*An inquiry into the pathological importance of Ulcerations of the Os Uteri, being the Croonian Lectures for the year 1854.* By C. WEST, M.D., F.R.C.P., Physician-Accoucheur to St. Bartholomew's Hospital, &c. (8vo, Longman, 1854; pp. 95.)

It is held by many in the present day, that pain, leucorrhœa, hemorrhage, irregular menstruation, abortion, and almost every other disorder which is incident to woman, is due to inflammation and ulceration of the os and cervix uteri,—that no cure can be effected without the removal of this local disease,—and that this removal cannot be accomplished without the speculum and local cauterizations. Is it so, then? The answer which is furnished in the volume before us, is unhesitatingly negative, and, as we take it, on very sound and conclusive reasons.

After some preliminary remarks upon the speculum, and the peculiarities of the uterus in health and disease, and after describing ulcers of the os uteri, and stating the reasons for which such an important rôle has been assigned to them, Dr. West fully enters into his inquiry by examining (1), the evidence of physiology on the subject; (2), the evidence of morbid anatomy; (3), the results of ulceration of procident uterus; and (4), the results of clinical observation. The first two lectures are occupied with these considerations.

##### 1. The *evidence of physiology*. This is sufficiently clear.

“It is alleged,” says Dr. West, “as one reason for the liability of the cervix uteri to affections from which the body of the organ is comparatively free, that it receives a greater amount of blood, that it is endowed with a higher degree of vitality than other parts of the organ. But surely this statement is erroneous; and it suffices to examine the healthy uterus for any one to satisfy himself of the smaller vascularity of the neck than of the body of the womb. It is the body which chiefly grows as the period of puberty approaches, it is the body to which the great determination of blood takes place during each menstrual period, and from the lining membrane of the body that the menstrual flux is poured out. The looser tissue, the large vessels, the congested mucous membrane characteristic of the menstruating uterus, are limited, or nearly so, to the body and fundus of the organ; and it is the epithelium of its cavity, not that of the neck of the womb, which is abundantly intermixed

with the menstrual fluid. When conception takes place, it is the body of the uterus which first and chiefly enlarges, its mucous membrane which becomes developed to the decidua, its tissue which grows and is metamorphosed into muscular fibre; while the changes in the membrane of the cervix are limited to an increased activity of its mucous follicles, and the alterations in its substance to an increased formation of fibro-cellular tissue, with a comparatively scanty growth of muscular fibre. After delivery, the retrograde processes are much more striking in the body than in the neck of the womb. The mucous membrane of the cervix, stretched during pregnancy till the folds which it presented in the unimpregnated condition are obliterated, resumes once more its former plicated arrangement, while that of the body is detached and reproduced again and again before the organ reverts to its former state. The cervix is less sensitive than the body of the uterus: the sound which passes along the canal of the former almost unfeels, generally finds the lining of the uterine cavity acutely sensitive. The cervical canal has been forcibly dilated, it has been incised; the tissue of the cervix has been burnt with the strongest caustics, or with the actual cautery, or portions of it have been removed by the knife, generally with no injurious consequence; often with so slight a degree of constitutional disturbance, or even of local suffering, as to surprise those who advocate, little less than those who condemn, such proceedings.

"But, if structurally so lowly organized,—if physiologically of such secondary importance,—if so much less subject than the body of the uterus to alterations in its intimate structure,—and if so comparatively insensible even to rude modes of therapeutical interference,—it certainly does appear to me that the assumption that some slight abrasion of the mucous membrane covering this part is capable of causing a list of ills so formidable as are attributed to it, ought to rest for its support upon some other and stronger foundation than any inference fairly deducible from anatomical or physiological data."

2. The *evidence of morbid anatomy* is no less opposed to the idea that inflammation of the cervix and ulceration of the os and cervix uteri are occurrences of serious pathological importance, if we may judge from that which is cited by Dr. West, as undoubtedly we may.

"My own observations," he says, "which amount only to 62, are too few conclusively to settle this inquiry; though I cannot but hope that the care with which they were made may compensate to some extent for the smallness of their number, and that they may serve at least to indicate the side towards which the weight of evidence inclines. Each examination was recorded according to a printed form, on which were specified for separate notice the dimensions of the uterus, the condition of the os, the length and breadth of the cervix uteri, the size of the uterine cavity, the thickness of the walls of the organ, and so on;—points some of which were of practical interest, while the enforced attention to others had at least this advantage, that it prevented anything from being overlooked.

"The uteri were taken from patients who died in the medical wards of St. Bartholomew's Hospital of other than uterine disease. Of the total number, 13 were above forty-five years of age, the remaining 49 between the years of fifteen and forty-five. Concerning all of the former class, and 30 of the latter, making a total of 43, it was either known with

certainty, or concluded with great probability, that they were married, or had had sexual intercourse; the remaining 19 were believed to be virgins.

"The subjoined table shows the general results of the examination of the uterus in these cases, and the relations borne to ulceration of the os uteri by the more important morbid appearances.\*

TABLE.

*Showing the chief results of the examination of 62 uteri:*

Uterus healthy in . . . . .	33
,, diseased in . . . . .	29
Ulceration of os uteri in . . . . .	17
,, existed alone in . . . . .	11
,, with diseased lining of uterus in . . . . .	3
,, with induration of walls of uterus in . . . . .	3—17
Induration of walls of uterus, without ulceration of os . . . . .	5
Disease of lining of uterus, without ulceration of os . . . . .	7
Total of diseased uteri . . . . .	29

"The os uteri was abraded in 1 of the subjects above 45 years of age; and the lining of its interior was diseased in 5 of that number. In 11 of the 19 patients, all under 45 years old, who were virgins, the uterus was perfectly healthy; in 8 it presented some sign or other of disease. This consisted 5 times in slight abrasion of the os uteri, which existed alone in 3 cases; but was associated in the other 2 with some morbid state of the interior of the womb. Twice the interior of the uterus was the only part affected; and once the uterine walls were much harder than natural.

"There is certainly something at first not a little startling in the result at which we arrive, that the womb was found in a perfectly healthy condition in little more than the half of 62 women, none of whom died of uterine disease, nor were supposed to be suffering from any grave uterine ailment. But it may, it ought indeed to be, asked, what is the value of these appearances? Some of them may be of little moment, and the very frequency of their occurrence, instead of substantiating the opinion that they are of great importance, rather militates against that supposition. When ulceration of the os uteri was first observed, it was natural enough to attribute to it many symptoms, and to refer to its influence many structural changes. But what if such ulceration be found to be usually very limited in extent, and so superficial as to be unassociated with changes in the basement membrane of the affected surface, and exercising so little influence on the state of the uterus in general, as to be unconnected, in a large number of instances, with changes either in the interior of the womb, or in its substance; while induration of the uterine tissue

\* In the above table, and in the general statements of the state of the uterus, no notice is taken of morbid conditions of the uterine appendages, nor of those affections of the womb (such, for instance, as fibrous tumours), which obviously stand in no necessary relation to inflammation of the organ, or to ulceration of its orifice.

and disease of the lining membrane of the womb are found independently of it, or of each other? Should such appear to be the case, it will, I think, be rendered in the highest degree probable that this abrasion of the os uteri has not the long train of sequences which have been supposed to follow it, but that it is of comparatively small pathological import; that it may be found to vary under the influence of comparatively trifling causes; and not infrequently to be dependent on functional disorder of the uterus, just as the mucous membrane of the tongue and mouth betrays the disturbance of the digestive system; that it may, in short, be the consequence, and sometimes the index, but rarely the occasion, of the ailments with which it is associated.

“ Abrasion of the os uteri was observed in 11 instances unconnected with any other morbid condition of the womb. In 6 cases it was extremely slight, affecting just the edges of the os uteri, but not extending for more than a line in breadth: the mucous membrane lining the canal of the cervix was in all of these instances quite pale, but twice the lining of the uterine cavity was of a brighter red than natural. In the other 5 cases, the abrasion, though retaining the same character, was more extensive: once the abraded surface presented a finely-granular aspect, but was quite uniform; but in the other four cases it had an uneven worm-eaten appearance, probably due to a partial destruction of the papillæ which beset the os uteri.\* In 4 of these cases the abrasion extended for a short distance up the canal of the cervix, while once it was limited to that exclusively, the lips of the os being perfectly pale and healthy, and the mucous membrane of the cervix unaltered, except along a strip a third of an inch in breadth by an inch in length, where the posterior wall was abraded. In 3 of the above 4 instances there was some increase of vascularity in the mucous membrane of the cervix, which on one occasion extended for nearly half an inch up its canal; and once this condition was very marked, and the mucous membrane appeared swollen and infiltrated, but in no other case was there any appearance of thickening of the membrane either at the seat or in the immediate neighbourhood of the abrasion.

“ It is alleged, as we have already seen, that in the great majority of instances, ulceration of the os uteri gives rise to induration of the cervix, the result of the extension of inflammation to it, and of the effusion of plastic lymph into its structure, which lymph comes by degrees to be more and more organized. This description, however, of the manner in which induration of the cervix uteri takes place is purely imaginary; there are no observations whatever bearing on the subject, and the difficult task of tracing the results of chronic inflammation in any tissue is obstructed by so many special impediments in the case of the uterus, that it will probably be long before we shall be in a position to speak with any measure of certainty concerning it. The account of the process by which induration of the cervix uteri is produced may possibly be correct, but at any rate it is not proven; and few things have so retarded the advance of medical knowledge as the accepting some plausible hypothesis as if it were a statement of well-ascertained facts, and then proceeding to reason from it as if from some secure basis.

\* As in the delineation, by Drs. Hassall and Tyler Smith, in vol. xxxv of the Medico-Chirurgical Transactions.

"Under what circumstances is induration of the uterine tissue met with, and in connection with what other changes in the organ? It existed in 9 cases: in 5 of which it was not associated with any other disease of the uterine substance; in 3 it coexisted with ulceration of the os; and in 1 with a morbid state of the interior of the uterus. In an unmarried girl, aged eighteen, who died of cardiac dropsy, the tissue of the fundus, and of the upper half of the body of the uterus, presented its usual characters; but about half way down the body of the organ there began a strip of a dead yellow colour, and much denser texture, resembling fibro-cartilage or the elastic coat of an artery. The dense tissue lay immediately beneath the lining membrane of the uterus, and being at first only one line in thickness, increased in width till it came to constitute the whole thickness of the cervix uteri. In the case of another patient, aged forty-seven, a similar condition was met with in the body of the uterus, but scarcely at all involved the cervix; and in the three other cases, in all of which the women were under thirty years old, the cervix uteri alone was affected, being white, hard, creaking under the knife, and seeming under the microscope to be composed of an extremely dense fibrous tissue.

"It appears, then, that most marked induration of the tissue of the cervix, and of part of the body of the womb, may exist where there is no other trace of inflammation, either past or present. It may also occur in connection with inflammation and ulceration of the lining membrane of the uterine cavity. In a woman who died at the age of fifty-six, about a third of the thickness of the wall both of the body and of the neck of the womb was exceedingly firm, and creaked under the knife. Abundant glairy secretion from the cervical glands, and some want of transparency of its lining membrane, were the only unusual conditions of the interior of the uterine neck; but the cavity of the organ contained a copious purulent secretion mixed with blood; its mucous membrane was thickened, vascular, and destitute of polish, and about the middle of the posterior wall completely destroyed, leaving the substance of the womb beneath uneven, rather soft, and presenting the appearance of a granulating surface.

"Ulceration of the os uteri, and induration of the uterine walls, were associated together in three instances. On one occasion the ulceration was but slight, and the interior of the cervix extremely pale, though there was great injection of the lining of the uterine cavity. In this instance the cervical wall was much indurated, that of the body of the uterus rather less so. Extreme induration of the cervix existed in one case where there was rather extensive ulceration of the os uteri; and in this instance the cervix was considerably hypertrophied. The patient from whom this uterus was taken had been under my care for some years previously, suffering from symptoms such as Gooch describes under the name of irritable uterus; her sufferings had been most severe, and the enlargement of her womb most considerable at a time when there was no abrasion of its orifice. In one case only, in which there was considerable induration of the cervix, there was a distinct line of congestion, about half a line in depth, between the ulcerated surface and the pale tissue of the indurated cervix.

"In 10 cases the condition of the lining membrane of the uterine

cavity deviated from that which characterises it in a state of health. Thrice this state of the interior of the womb coexisted with ulceration of its orifice of moderate extent, and presenting its ordinary appearance; but in the remaining 7 instances the os uteri was perfectly healthy. In 7 of the 10 cases the uterine mucous membrane was vividly injected, so as to present a bright rose tint, and was more or less swollen and softened. Once very extensive disease of the lining membrane of the uterine cavity, probably of a tuberculous character, was discovered in the body of a woman fifty-six years old. In a second case in which the patient was stated to have had a copious leucorrhœal discharge, and to have complained of pain and of a sense of heat at the lower part of the abdomen, the intensely red mucous membrane of the uterine cavity presented an almost gelatinous appearance, and looked not unlike decidua. In this instance, though there was some ulceration of the os, yet the lining membrane of the cervix was quite pale; no secretion occupied its canal, and the tissue of the uterus was quite healthy. In a third case a small patch of ecchymosis was present beneath the lining of the uterine cavity; and in a fourth, where the patient had not menstruated for five months, the lining membrane, though of a pinkish colour, had lost its polish, and looked more like an injected serous membrane than like the mucous lining of the womb."

3. The evidence of physiology and morbid anatomy is also borne out by the *results of ulcerations in procident uterus*, for it is most certainly proved that the ulcer which so frequently complicates this accident does not seriously disorder the uterine functions or alter the uterine structures.

4. The *results of clinical observation* are to the same effect. These results, in the lectures before us, are elicited from the examination of no less than 1226 cases which were under Dr. West's care either at the Middlesex or at St. Bartholomew's Hospital. In 268 of these cases, the symptoms appeared to justify the use of the speculum, and of this number the os uteri was found to be ulcerated in 125. These cases were carefully recorded, and the results are stated in several interesting tables. The conclusions appear to us to be inevitable.

"1st. Uterine pain, menstrual disorder, and leucorrhœal discharges,—the symptoms ordinarily attributed to ulceration of the os uteri,—are met with independently of that condition almost as often as in connection with it.

"2d. These symptoms are observed in both classes of cases with a vastly preponderating frequency at the time of the greatest vigour of the sexual functions, and no cause has so great a share in their production as the different incidents connected with the active exercise of the reproductive powers. But it does not appear that ulceration of the os uteri exerts any special influence, either in causing sterility or in inducing abortion.

"3d. While the symptoms are identical in character in the two classes of cases, they seem to present a slightly increased degree of intensity in those instances in which ulceration of the os uteri existed.

"4th. In as far as could be ascertained by careful examination, four-fifths of the cases of either class presented appreciable changes in the condition of the uterus,—such as misplacement, enlargement, and harden-

ing of its tissue, while frequently several of these conditions coexisted. An indurated or hypertrophied state of the cervix uteri was, however, more frequent in connection with ulceration of the os uteri than independently of that condition.

“5th. The inference, however, to which the last-mentioned fact would seem to lead, as to the existence of some necessary relation,—such as that of cause and effect,—between ulceration of the os uteri and induration of its cervix, is in great measure negatived by two circumstances:

“1. The number of instances in which an indurated cervix coexisted with a healthy os uteri.

“2. The fact that, while induration of the cervix was present in 25 out of 46 cases in which the ulceration of the os was very slight, it was altogether absent in 9 out of 16 cases in which the ulceration was noted as having been very extensive.

“These inferences sufficiently show that I do not subscribe to either the first or second of those three conclusions, one or other of which, it was stated at an early period of this lecture, would probably be found to represent the truth of this matter; that I do not regard ulceration of the os uteri either as the general cause of the symptoms which have been attributed to it, or even as a general concomitant of them, and index of their degree and severity. It would, indeed, have simplified the study and the treatment of uterine disease very much to have found that a slight erosion of the mucous membrane of the least important part of the womb was the cause of four fifths of those painful ailments to which the female sex is liable; but I will venture to add that it would have shown diseases of the womb to constitute a most marvellous exception to the ordinary rules of pathology.”

The last lecture is devoted chiefly to considerations which tend to show that uterine ailment is often a mere symptom of some general disorder. When present in such cases, ulceration of the os uteri is of secondary importance, and equally so in many instances where disease really begins in the uterus itself, as in the ailments necessary to pregnancy, abortion, delivery, &c. Dr. West also cites evidence for the belief that when inflammatory action is set up in the womb, it begins generally in the interior, and not at the neck. After this, he proceeds to the question of local treatment, and upon this, as upon other questions, he has a very decided opinion. “In the great majority of instances,” he says, “in which the nitrate of silver is applied to the os uteri, the proceeding is simply superfluous.” Again, when speaking of the application of the caustic potass, “my dissent from the practice is founded on the fact that it has none of the three recommendations of painlessness, safety, and speed; while my own experience would lead me to believe that when adopted, it is usually either out of place or superfluous.” And, in another place, he writes: “that lotions, baths, and other remedial agents, which may be safely intrusted to the patient herself, will answer the desired ends more frequently than some practitioners imagine, is my firm conviction.”

Dr. West does not think that the successful results which have followed the treatment of uterine disease by caustic, any serious objection to his opinion.

“I think,” he says, “it should be borne in mind that, in connection

with this mode of treatment, various other measures are of necessity adopted eminently calculated to relieve many of the slighter forms of uterine ailment. The married woman is for a time taken from her husband's bed; the severe exertion to which either a sense of duty urged, or a love of pleasure prompted her, is discontinued; while rest in the recumbent posture places the uterus and the pelvic viscera in just that position in which the return of blood from them encounters the smallest difficulties. The condition of the bowels, probably before habitually neglected, is now carefully regulated, and the patient's diet, bland, nutritious, and unstimulating, often differs widely from that with which, while all her functions were overtaxed, she vainly strove to tempt her failing appetite. Add to this, that the occurrence of the menstrual period is carefully watched for; that all precautions are then redoubled, and each symptom of disorder, such as on former occasions had been borne uncomplainingly, though often not without much suffering, is at once encountered by its appropriate remedy; while generally returning convalescence is met in the higher classes of society by a quiet visit to the country, or to some watering-place, in pursuit not of gaiety, but of health; and we have assembled just those conditions best fitted to remove three out of four of the disorders to which the sexual system of woman is subject. But the very simplicity of these measures is a bar to their adoption; for you will bear me out in saying, that the rules which common sense cannot but approve, but which seem to require nothing more than common sense to suggest them, are just those to which our patients least readily submit. The case is altered, however, when these same rules are laid down not as the means of cure themselves, but only as conditions indispensable to the success of that cauterization which, repeated once or oftener in the week, is the great remedy for the ulceration that the doctor has discovered, and which he assures his patient, and with the most perfect good faith, produces all the symptoms from which she suffers. The caustic used in these milder cases is the nitrate of silver; the surface to which it is applied is covered by a thin layer of albuminous secretion, which it is not easy to remove completely, and which serves greatly to diminish the power of the agent, while the slightly stimulating action that it nevertheless exerts, seldom does harm, sometimes, I believe, does real good, though no more than might have been equally attained by vaginal injections, or other similar remedies, which the patient might have employed without the intervention of her medical attendant."

In conclusion, we have no hesitation in saying that these lectures are worthy, both in style and argument, of the high assembly before which they were delivered; and that they *ought* to be read by all practitioners of medicine, who are in any way desirous to keep pace with the progress of medicine.

*On the treatment of Displacements of the Uterus, by intra-uterine pessaries.* ('Gazette Médicale de Paris,' June, July, August, 1854.  
'Archives Générales de Medecine,' June, July, August, 1854.)

This subject has lately caused a most important discussion in the Academy of Medicine of Paris. It was introduced by the detail of

two cases reported in our last volume, (p. 225,) both of which died with symptoms of peritoneal inflammation, subsequent to the use of the uterine sound. The result was that a committee, composed of MM. Robert, Huguier, and Depaul, was appointed, and an elaborate report drawn up by the latter, was presented to the Academy, wherein the use of intra-uterine pessaries and the uterine sound was condemned in the severest terms.

M. Depaul, in this Report, undertakes to show :

1. That it is an error to attribute to deviations of the uterus those symptoms which have an entirely different origin.

2. That in the generality of cases sufficient notice has not been taken of much more frequent pathological conditions, which may exist alone, may produce the same symptoms, and may also, and that frequently, draw the uterus into an abnormal position.

3. That science possesses a simple and rational means of cure for these affections ; which every day, in the hands of experienced practitioners, affords most satisfactory results ; and which is equally efficacious in those rare displacements producing inconveniences which it is necessary to remove ; or in those much more common affections which, at first simply the consequence of a morbid condition, may aggravate the condition or postpone the cure.

4. That when the published cases are submitted to a careful yet impartial criticism, they are far from having the signification given to them ; on the contrary, almost all testify to the insufficiency of the new method of treatment.

5. That, despite of all that has been said, we must cease to deceive ourselves, and inquire if the time has not arrived to take into serious consideration the facts, already too numerous (though all are certainly not known), which prove that the most formidable affections, and even death, are often the consequence of manipulations which, at first sight, are contrary to common sense.

The reporter next considers the instruments used ; the natural position of the uterus, and the various displacements which it may undergo.

*The Instruments* are of two kinds. The uterine sound especially intended for exploration, and the different intra-uterine pessaries.

1. *The Pubic Pessary* consisting of two parts—one introduced into the cavity of the uterus, the other attached to the pubis.

2. *The Spring Pessary.*

3. *The Simple Bulb Pessary.*

4. *The Galvanic Pessary*, and

5. *The Dilating Pessary.*

*General considerations on the natural position of the unimpregnated Uterus.* Cruveilhier states, that the uterus has no certain direction, and this the reporter considers as another way of expressing the fact, that many temporary and accidental causes may change the direction of the organ relatively to the pelvis. He considers the natural position to be in the direction of the superior outlet, i. e. obliquely from above downwards, and from before backwards, the female being sup-

posed to be in the sitting posture. It has been lately stated that the uterus has two axes—the one for the body, which is nearly horizontal, the other for the neck, which is in the direction already indicated. From which it would appear that antiflexion is to be considered as the primary position, and that this is a position which continues until altered by the first pregnancy. In this opinion he believes Boullard and Verneuil have mistaken a purely accidental and *post-mortem* condition for the normal position, which conclusion he had arrived at after numerous experiments on the dead body, and the examination of three women a short time before their execution. In these women the position of the uterus was ascertained to be oblique from above downwards, and from before backwards, during life, and twenty-four or thirty hours after death the direction was found to be altered; in one there was anteflexion, although the woman had borne children, and in the two others complete retroversion.

The different kinds of deviation are next described, viz., anteversion, retroversion, and lateroversion; anteflexion, retroflexion, or lateroflexion; a rare variety wherein, by a bending of the uterus, the two extremities are brought nearer to each other; and another more rare, where the organ is bent in the form of an italic *S*; and prolapsus.

If these deviations be considered as pathological conditions, much more than one half of the women must be considered as suffering from disease, and treated accordingly. But this is not the case; and no one pretends it is so. Yet, since attention has been given to the intra-uterine pessaries, the influence of these deviations upon the health of females has been singularly exaggerated; and too often affections depending upon other pathological conditions, have been attributed to these alterations of position. What would be said of any pathologist who, in tracing the symptoms of pneumonia, chose a case complicated with pleurisy and attributed all the symptoms to the former disease? That such has been the mode of proceeding with respect to the diseases of the uterus, is shown by a careful examination of the recorded cases. After examining the twenty cases recorded by Valleix, in his clinical lectures, the reporter considers himself authorised to conclude that their author, in the explanation of the symptoms, has attributed them much too exclusively to the alterations of position which were present. These cases show—(a) that deviations do not produce the symptoms and inconveniences attributed to them,—or that the partial development of simple inflammation is sufficient to produce them,—(b) that in addition to the displacement, sometimes only trifling, much more serious lesions existed, which were passed over with a surprising facility and without inquiring whether they played any part in the production of the symptoms. It appeared to the reporter that when the uterus was heavy, voluminous, and the neck also hypertrophied and presenting granulations or large ulcerations extending into its cavity; or when the uterus was painful to pressure, and an abundant discharge passed from the cavity, that these pathological conditions merited to be taken into consideration. The cases recorded by Gaussail, and often cited by Valleix, lead to similar conclusions; as also, the observations of Piachaud, formerly a pupil of Valleix, who

adds, that he has seen serious hemorrhage, and, in two cases, even perforation of the uterus, follow the use of those pessaries.

In determining this question, it is necessary to ascertain (1). Whether amongst the healthy women without uterine symptoms, a certain number have not the uterus more or less displaced. (2) Whether, amongst those suffering from some other affection, with displacement, by curing the former, the latter will not disappear, or, at least, the symptoms attributed to it. (3) Whether uterine affections, without any appreciable displacement, do not cause all the symptoms attributed to these displacements.

Professor Dubois stated, in 1849, that putting to one side the disturbance created to menstruation by the flexions of the uterus, he considered them as inoffensive alterations; and the other displacements,—prolapsus, antiflexion and retroversion, as perfectly innoxious, except when these deviations were very great. Contrary to the opinion of some, he thought, with Lisfranc, no other morbid symptoms existed, except those derived from some pathological complication and particularly from chronic inflammation. These opinions are also held by other experienced physicians. In twenty-seven cases of anteflexion mentioned by M. Gosselin, none suffered from uterine symptoms. At the Hôpital des Lourcine, a considerable number of women had prolapsus, retroflexions, anteversions, retroversions, and yet did not present any symptoms of uterine affection. On the other hand, a good number suffered from uterine pain, without having any deviation. Whilst others suffering from uterine pain with displacement, the pains had ceased after repose, antiphlogistic means, and narcotics, although the deviations still persisted.

In more than sixty cases observed by himself, of various affections of the uterus, complicated with one or other form of deviation, he could scarcely count three where the symptoms had continued after the removal of the fundamental disease. In many the displacement disappeared, and in those wherein it remained, it produced no inconvenience. The experience of each day showed, that all the symptoms usually attributed to displacements, may be produced by other diseases.

Special instruments to remedy the sterility, supposed to depend on displacements, had been invented. But in order to place any value on the results of this treatment, an inquiry ought to be made, as to whether the affections existing alone, or in company with the displacements, did not play the most important part in the production of sterility. It is not difficult to understand that inflammation of the cervix, especially when it extends to the body of the organ, or to the Fallopian tubes, may oppose an insurmountable obstacle to impregnation, either by obstructing the passage of the spermatozoa, or of the descent of the ovule. It is also probable that the fluid secreted by the inflamed mucous membrane may be injurious to the fecundating material; whilst women who have long suffered from uterine affections have become pregnant after they were cured, quite irrespectively of the displacement of the organ. The question, however, of sterility always has been, and will long remain, one of great obscurity; for, independent of the causes depending on the condition of the uterus,

there are the various alterations in the ovary and Fallopian tubes ; not to speak of those totally independent of the female, and which must be sought for in the other sex.

In a very small number of cases the health of the female may be deranged by displacement of the uterus alone, and especially by prolapsus ; so that it becomes necessary to oppose to these exceptional cases, an exceptional mode of treatment. And, under certain circumstances, the displacement, although entirely a secondary affection, may exercise a troublesome influence ; retard the cure of concurrent affections, and notably aggravate the symptoms ; but, under these circumstances, we possess various means of treatment, which will never, or hardly ever, compromise the health, and, above all, the life of the individual.

And, if a certain number of uterine affections resist these means of treatment, it ought to be attributed less to the insufficiency of therapeutical means, than to the obstacles of every kind which prevent their rigorous application. It is only a small number of women who will consent to put to one side the duties of their position, of their families, of society, &c. Indeed, it may be said that many women are cured in spite of themselves.

The first point to ascertain in uterine affections, is, whether the tissue of the organ be healthy. If so, and there is displacement, the latter must be attended to. Everything which will diminish the pressure of the intestines, such as the removal or modification of the stays, the use of hypogastric bandages, properly made and applied, afford excellent results in the treatment of prolapsus. When these are insufficient, the various kinds of pessaries become powerful auxiliaries. In every case where the support can be given by the abdominal parietes it is infinitely to be preferred ; and that it is only as a last resource that we must condemn females to wear any foreign body whatever in the vagina. In aggravated and rebellious cases of retroversion, good results have followed the introduction into the rectum of pads or pessaries. But with respect to the plan of cauterising a portion of the neck, and corresponding part of the mucous membrane of the vagina with the view to obtain adhesion, and thus to draw the organ in a contrary direction to the deviation, it is very doubtful that experience will sanction the proceeding, which, moreover, may not be so harmless as is believed.

The statistical results obtained by Valleix, leave not only much to desire, but also contain the materials for justifying an opinion diametrically opposed to his. Of 180 cases, 129 were permanently cured ; a good number had obtained notable amelioration ; many were still under treatment ; and others had only submitted to an incomplete and insufficient treatment. These figures show that this method was successful in nearly every case, and that scarcely any rebellious displacements resisted it ; a result very extraordinary, and which of itself creates a doubt as to the accuracy of the reports. Twenty cases reported by Valleix, five by Gaussail, and three by Piachaud, are afterwards examined. The reporter expresses great regret, that when he wished to know the results of Simpson's treatment, he received in reply only assertions without any proofs. The cases of Valleix furnish the

most striking proof of the illusions entertained by some physicians ; whilst those of Gaussail testify more strongly still, if this were possible, against the new method of treatment. One of these cases is thus given : After having employed for several months the sound and various intra-uterine pessaries, they were obliged to admit that it had not produced any amelioration. It appeared even to the patient that she was more fatigued by walking, standing, and the ordinary movements of the arms. The alterations in the position of the uterus were little appreciable. The patient, and the medical man himself, were convinced that this treatment ought to be abandoned.

The following is given as an example of the mistakes which may occur in the results of the treatment :

Madame P. complained of pain in the groins, hypogastric region, lumbar region, and thighs, which were increased by standing and walking, of frequent desire to pass the urine, and difficulty in relieving the bowels. She entered the hospital under M. Valleix, who recognized an anteversion of the uterus, and, in due time, introduced an intra-uterine pessary, which was retained for four days and nights. The principal symptoms were removed, the instrument withdrawn on the fifth day, and the displacement no longer existed. The patient remained in the hospital for five days, and was pointed out to a great number who visited the hospital, as an example proving the efficacy of the instrument. She remained in all seven weeks in the hospital, and was dismissed cured ; but the day after returning home, the pains again appeared, she returned to the hospital, the anteversion was found still to exist, and she was charged with being imprudent with her husband. She returned home, consulted another physician, was treated by him, the pains became notably less, although the anteversion still persisted.

Scanzoni, when speaking of the treatment of deviation of the uterus by the instrument of Kiwisch, says : "in twenty cases, I have tried the method without obtaining one single example of permanent cure."

The intra-uterine pessaries have undergone important modifications by Valleix, in the gradual shortening of the uterine portion. These modifications have become so radical as to constitute a giving up of the original principle. Another plan has been tried, which consisted of passing the sound into the cavity of the uterus, relieving the displacement, then withdrawing the instrument, and introducing an Indian-rubber pessary filled with air. Of nine cases treated in this manner, seven were permanently cured, and the eighth was greatly relieved when, for particular reasons, the treatment was interrupted. Valleix himself remarks : "These facts require no commentary ; they show that the displacement is relieved, and remains so, as well as when the pessary with the intra-uterine portion was employed." But they do not show that the cure was permanent, by the new, any more than by the old method ; whilst they furnish the most complete condemnation of the intra-uterine pessaries. One of the reasons assigned by Valleix in support of his opinions, is that the new method has received many supporters. In this he is singularly mistaken, for although a few have defended it

here and there, the men who have condemned it are infinitely more numerous, and this after having tried it in practice.

The opinions of the profession in Great Britain are next considered, and the following account is quoted from an eye-witness of Dr. Simpson's practice :

" The tolerance of the uterus as to mechanical interference, differs greatly in different individuals ; in some patients these instruments produce but little inconvenience during the first minutes or hours after their introduction ; with others, on the contrary, they quickly excite inflammation which may have serious consequences. Hence, in some cases, they can be borne for some days, weeks, months, or even years, without inconvenience ; but in other cases the sensibility of the uterus has from the first raised a veto which ought to be respected. Unfortunately this has not been attended to by some who have identified themselves with the mechanical treatment and cure ; and from having mistaken these warnings, a certain number of women have been victims to these instruments. If the exquisite sensibility of the uterus, excited by the presence of a foreign body, be now and then overcome, it appears that this organ may support it for a long time with apparent impunity. I have seen some cases of this kind, but I believe them to be very rare. In the great majority of females, some morbid condition of the uterus, or of its appendages, has supervened, and a prompt withdrawal of the instrument, as well as an active treatment, has become necessary."

" The immediate effect of these pessaries is, for a short time, singularly deceptive. The patient, depressed by the continuance of the pains, and the other symptoms, consults a mechanical physician ; a pessary is introduced ; the uterus is replaced. She is requested to walk in the consulting-room, and, to her great astonishment, all the symptoms have disappeared as if by magic. The physician is praised, his talents are extolled ; full of joy, the patient recounts to her astonished friends the marvellous cure ; the future apparently full of hope. But this marvel has scarcely lasted a few hours, when the scene changes ; an irritation commences ; and acute inflammation quickly follows. Recourse is had to calomel and opium, and other antiphlogistic means, and the patient, if she escape a most serious disease, has often to bear the dreadful results of a long-continued salivation. Such is the history of a certain number of women who have submitted to the use of these instruments. I have no doubt, from experience itself, that the use of these instruments may be followed by the most serious affections ; hemorrhages, rectal fistula, ulcerations of the rectum, metritis, metrorrhagia, pelvic abscesses, are amongst the more frequent consequences ; more than once even death has been the final result."

Dr. Fleetwood Churchill remarks : " In cases of extreme deflection, and of long standing, although the womb be replaced, it soon falls back, and no ground appears to be gained. At first sight the contrivance seems exactly suited for the purpose, but experience has shown that it cannot always be used with impunity or safety." And when treating of dysmenorrhœa, the same author remarks : " I do not believe that the uterus is so tolerant of interference, and of the presence of foreign bodies, as some have stated, and I could

bring many cases to show the evil results of the 'meddlesome' practice, if it were necessary.'

The opinions of Dr. Ashwell and Dr. Green, are also given in condemnation of the use of these instruments, as well as the cases reported by Dr. Robert Lee. One, a young lady, had been treated for ulceration of neck of the uterus; afterwards her sufferings were said to be caused by a retroversion, when a horrible instrument with a long stalk was introduced into the uterus. When the patient had been nearly killed by this impaling machine, it was withdrawn, leaving her health in a most deplorable condition. Another, a young lady soon after marriage, was treated successively for leucorrhœa and ulceration, without relief, and finally for retroversion. A pessary was introduced into the uterus, and occasioned dreadful pains. These pains became intolerable, and, at the end of a week, it was withdrawn. A month afterwards it was re-introduced, and although the pain produced was intense, still she remained on the back, and bore the instrument for six weeks. It was then withdrawn, the patient being glad to escape with her life.

The opinion of Dr. Oldham, is next quoted :

"Dr. Simpson's uterine supporter—the principle of which is theoretically correct, perfect, and highly characteristic of the enterprising intelligence of the inventor—I must candidly say that I dare not use. I was very much struck at first with it, and thought that it would supply a most valuable aid, not only for retroversion, but also for long standing cases of procidentia of the uterus. When I tried it, I found that it required a good deal of manœuvring to introduce it, and that it set up considerable irritation of the uterus, peremptorily demanding its removal. I do not doubt, after Dr. Simpson's testimony, that the uterus of some women will tolerate this great irritant; but the chance of exciting such symptoms as I have witnessed from it, is, to my mind, conclusive against its general adoption, especially when other unobjectionable resources are at our command. I do not attach the same importance as Dr. Simpson to the replacement of the womb as a means of reducing its volume; and I feel well persuaded, that supposing there be any such advantage from this replacement, it is more than counterbalanced by the evil of having an ivory stem retained within its cavity."—('Guy's Hospital Reports,' 1849.)

Dr. Oldham afterwards met with two fatal cases, which demonstrated the accuracy of these views. Speaking of the mechanical treatment of sterility, he remarks: "Obstetricians ought to be nicely scrupulous in encouraging a plan of treatment of very doubtful efficacy, and dangerous to life. I am sure that in these operations, a hazard is run quite disproportionate to the amount of good accomplished; and I shall recount two fatal cases which have come to my knowledge; and I cannot but infer that others of a similar kind have occurred, but have not been recorded side by side with those of a more fortunate issue."

1. A lady, from youth, suffered intense dysmenorrhœa, and pains during sexual intercourse. Her health was much affected, and she came to London for the purpose of having the os uteri dilated, which had been attempted by wax dilators. The os uteri was divided, and

silver dilators introduced. This produced horrible suffering; she did not experience the slightest relief from the dysmenorrhœa. A silver canula was afterwards introduced. Again she suffered frightfully. Another tube was passed; the distress was intolerable; sickness and shivering came on; her sister succeeded in removing the tube; but all treatment was unavailable, and she sank. On examining the body below a line from the anterior spinous process of the ilia, there was recent intense peritonitis; the pelvis filled with pus-like fluid; the cavity of the uterus filled with bloody mucus. There were also signs of acute metritis; small fibrous tumours in the substance of the organ; congenital constriction of the right Fallopian tube; and structural alteration of both ovaries; but no other disease.

Dr. Oldham remarks: "This case affords a most instructive example of the dangerous effects of dilatation, even in experienced hands, and the great caution with which it should be undertaken. It is important, too, as showing the difficulty of detecting the cause of sterility. I am sure that there was no kind of morbid contraction in this case; and that the os and cervix uteri, which were alone treated, had nothing whatever to do with the dysmenorrhœa or sterility."

2. A young married lady was attended by Mr. Bransby Cooper for a very painful fissure in the anus. She afterwards spoke to him of a very distressing social trouble—sterility. He could not detect any defect in the uterine organs, but referred her to a physician-accoucheur, who discovered a retroverted state of the uterus. He introduced a uterine stem supportor, which set up peritonitis, of which she died in three days.

Dr. Oldham remarks: "I cannot but characterise the practice of fixing the womb in a definite position by means of a stem-supporter as rash and hazardous, causing severe irritation and pain, and even death, to the patient, with, at the best, a very questionable amount of good. The anteversion or retroversion of a small uterus, without other complications, does not, in my experience, occasion any great distress; and it is far better to leave it alone, and improve its tissue with the rest of the organs of the body, than to prop it up for a time under the feeble pretence of curing it." ('Guy's Hospital Reports,' 1849.)

Dr. Montgomery, of Dublin, in a recent conversation with M. Depaul remarked, that all he knew and all he had seen firmly convinced him of the inutility of this method of treatment, and of the great dangers it entailed on the female. And Dr. Duncan, who practices in Edinburgh, has lately published similar opinions.

When the uterine sound is employed to replace the uterus, it ought to be considered as an intra-uterine pessary, with only this difference, that as the foreign body remains a shorter time in the cavity of the organ, the irritation and the serious consequences which follow ought to be less frequent. There is not only no necessity in the generality of cases to use the uterine sound as a means of diagnosis, but in certain circumstances, it may give rise to error. For instance, suppose a small fibrous tumour developed in the uterine wall of the uterus, and projecting into the cavity, the sound will meet with this obstruction and require to be directed backwards to pass it,

thus giving rise to the idea of a retroversion or retroflexion. It has been said that we are enabled to ascertain the mobility of the uterus by the sound, which may be possible, but is unnecessary, as the same may be determined by the fingers. However, the sound is useful in some cases; as in the diagnosis of intra-uterine polypus, and other tumours existing in the cavity; also, to decide whether a tumour is formed in the walls of the uterus, or independent of it. But these examples, and others which need not be cited, are only exceptional cases, and are also distinguished by other characters.

On reflecting on all that has been undertaken against the uterus for some years—an organ which previously we scarcely dare examine—we cannot avoid asking the question whether our advances have been too timid or too rash. Could it be more rash? Could more have been done for the last twenty-five years than has been done?

The introduction of the sound is not so simple a thing as has been pretended. The published observations show that this operation, called simple, has, almost always, occasioned pains more or less severe; been almost constantly followed by the escape of some blood, and even hemorrhage; that some women have suffered from shivering and fever; others from true metritis or peritonitis; and whilst in some these accidents have been overcome, and the irritability of the uterus calmed, still, others less fortunate have payed, by their lives, for an investigation which might have been dispensed with.

The introduction of a foreign body into the uterus may incur the possibility of inducing abortion; for it is by no means easy to diagnose an early pregnancy. When we remember that most experienced physicians have not been enabled to avoid this accident; that the data furnished by women are frequently incomplete, without taking into consideration those cases where it is their interest to conceal, we are forced to conclude that the greatest reserve is necessary, and that this instrument, which is good, but dangerous, ought only to be employed when indispensable. Nor must it be forgotten that if this method became general, it might lead to criminal practices, and serve as an excuse, or at least a pretence, for inducing abortion.

The cases related by Broca and Cruveilhier are then examined, and the conclusion established, after refuting the objections of Valleix, that in both the inflammation which caused the death was produced by the instrumental treatment employed.

This danger was further shown by the recital of four other fatal cases.

1. *Fatal metro-peritonitis in a woman treated by Valleix by means of the intra-uterine pessary.*

D. P—, æt. 35, had for several years hysterical symptoms, and retroversion of the uterus, which was considered the cause of the nervous symptoms. Discontented that no treatment was applied to remedy this, she applied to a physician, who cauterized the neck of the uterus, and ordered different medicines. After all, she was much worse than before. She conceived the idea that if she had a child she would be cured; and to procure this would have submitted to any description of pain. She heard that Valleix replaced the deviations of the uterus, and placed women in a condition to conceive. In this hope she entered the Hospital la Pitié; the 19th or 20th March the

intra-uterine pessary was applied, and in spite of the horrible pains which it produced, retained for thirty-six hours. On the 21st, unable longer to bear the pains, she left the hospital, saying that she would die if she remained any longer. After returning home she sent for M. Dachorry, who found her in great agony, with all the symptoms of metro-peritonitis, yet sufficient strength to relate what had been done. She declared that medicine was useless; and died the same day.

#### 2. *Fatal peritonitis in a woman treated with the intra-uterine pessary.*

J. T.—, æt. 23, entered La Pitié the 6th February, 1852, under M. Valleix. The uterus was retroverted, and the intra-uterine pessary introduced at different times. On the beginning of March sharp pains came on in the abdomen; the pessary was withdrawn, but all the symptoms of intense peritonitis showed themselves, and were rapidly developed, despite energetic treatment. Not wishing to die in the hospital, she was removed to the residence of her parents, and died the following morning.

#### 3. *From the report of M. Debout.*

A woman, about 28 years of age, had retroversion of the uterus. Numerous means having proved useless, it was decided to have recourse to the stem-pessary recommended by Valleix. M. Nelaton introduced the instrument at half-past three. She was well in the evening, and had remained in bed. The next morning she was up, and delighted, saying she never felt so much at ease; she had been about the room all the morning. M. Nelaton had barely left her an hour when he was sent for, and found her suffering from all the symptoms of peritonitis following perforation of the intestines. Despite energetic treatment the patient died of chronic peritonitis six weeks after; the body was not examined.

#### 4. *M. Arain's case.*

A woman, æt. 27, was affected with a displacement backwards of the body of the uterus, probably the consequence of a fall from the chair. An anteflexion, with a peculiar direction of the neck of the uterus in front, the consequence of a congenital condition, was discovered. The sound was several times introduced without accident. On the 8th December the intra-uterine pessary was first applied, and again on the 10th, the patient being unable to retain it more than twenty-four hours. It was this time retained eight days; but the displacement again occurred as soon as it was withdrawn. It was reintroduced on the 29th, and, although some pain showed itself, was retained until the 3d January. On this day it was withdrawn in consequence of evident signs of metro-peritonitis. Although active treatment was employed, the symptoms increased, and the patient died on the 7th January. On the examination after death, the body of the uterus was retroflexed, although the neck was directed upwards and forwards. The characters of peritonitis were present, the cavity of the uterus filled with pus, which penetrated into the Fallopian tubes; the tissue of the uterus was not inflamed, and an ulceration existed on the mucous membrane, on a level with the extremity of the uterine stem.

5. In one of M. Maisonneuve's cases the use of the intra-uterine pessary had been followed by peritonitis and death. These cases were considered to require no commentary.

The conclusions drawn at the end of the report are that:

1. The influence of displacements of the uterus on the health of females had been considerably exaggerated.

2. In many cases, the symptoms attributed to them are produced by another pathological state of the uterus.

3. In the healthy condition, the uterus, although capable of considerable movement, is placed obliquely from above downwards, and from before backwards.

4. In a great number of females, the uterus may be inclined, flexed, abased, or pushed towards one or other side of the pelvis, without in any way affecting the health of the female, the deviation in this instance constituting a deformity without importance.

5. When there exists simultaneously a deviation and chronic inflammation, or neuralgic state of the uterus, it is sufficient in the immense majority of cases, to treat and cure the latter, in order that the former may disappear; or if it persist, to prevent it from exercising any injurious influence over the health of the female.

6. Nevertheless some deviations are met with, but these are very few, which appear to produce sufficient inconvenience and consequences as to require a treatment directed to them.

7. These exceptional cases may be treated efficiently and almost constantly without danger, through the medium of the abdomen, the vagina, or the rectum.

8. The facts brought forward to show the efficiency of the treatment by intra-uterine pessaries, have been wrongly interpreted.

9. It is a mistake to affirm that the uterus, when replaced for a moment, has, in the great majority of cases, remained in the healthy position—a fact which can be ascertained every day by physicians who are called upon to examine patients who have undergone this treatment, and in whom the deviation still exists.

10. By attributing the cures and relief obtained, to the use of intra-uterine pessaries, it has been forgotten, that concurrently with it, a great number of other means have been employed whose well-known action would account for the results obtained.

11. The cases communicated to the academy by MM. Broca and Cruveilhier, are but too evident examples of the fatal influence which this method of treatment may exercise.

12. These, however, are far from being the only facts; in France, as well as in England, the cases of death which may be attributed to the employment of intra-uterine pessaries, are already too numerous not to convince the most confident.

12. Independently of those who have paid for their experience with their lives, we are horrified when we think of the accidents, without number, which have occurred in those who have escaped these dangers (pains more or less severe, sometimes agonizing; hemorrhages slight or severe, anaemia, nervous symptoms, shiverings, fever, faintings, peritonitis, pelvic abscess, metro-peritonitis, &c.), without taking into account that in many cases this treatment had to be renounced.

14. Whilst acknowledging that the uterine sound has many advantages in the diagnosis of certain affections, we must not forget that it is useless in a great number of circumstances, and as it may be followed by troublesome consequences it should be reserved for those exceptional cases which require it.

15. In regard to the intra-uterine pessaries, we think they ought to be proscribed, because they are useless; powerless to produce the effects which are expected; and causing the patients to run the most serious dangers.

Several members of the academy took part in the discussion which followed.

M. Piorry examined the question of displacement of organs generally, and especially those of the uterus.

He considered :

The employment of intra-uterine pessaries almost always palliative, and only applicable in very rare cases; and that it was only after a considerable lapse of time that they appeared sometimes to produce curative effects.

The inconveniences attending their employment are infinitely more important and more numerous than the advantages, and rendered their use perilous.

M. Malgaigne remarked on the opinions held by different observers. Valleix regarded the displacements as the principal cause of all the morbid symptoms; Dupaul that they had no part in the production of the morbid phenomena; Gibert and Beau maintained that diseases of the uterus were always the result of some general affection; Robert makes the granulations play the principal part; whilst Dubois maintained that displacements occasioned no symptoms, that engorgements and granulations were epiphrenomena without importance, and that the principal disease was inflammation.

M. Malgaigne concluded :

That the intra-uterine pessary ought not to be absolutely proscribed, but reserved for rare and uncomplicated cases, without irritation; and that the uterine sound must be used with caution.

M. Huguier considered that in those exceptional cases where deviations of the uterus produced serious and grave symptoms, we might have recourse to the intra-uterine pessaries, provided these affections resisted the other means of cure, and it had been ascertained that the uterus could be returned to its natural position without effort or pain, and that proper precautions were taken, and directions given to the patient to remove the instrument immediately she felt any agitation, inconvenience, pain, or fever.

He stated that deviations had peculiar symptoms which prevented them from being confounded with other diseases, and that latero-version, antiflexion, or retroversion do not offer much obstacle to impregnation.

M. Hervez de Chegoin said, the best means of remedying displacements, which produced distinct symptoms, was by the use of the ordinary pessaries; but these ought only to be applied when they occasioned no pain, and after the other complications had been cured. After the effects of the use of intra-uterine pessaries mentioned in the report, and which his own experience confirmed, he considers that they ought no longer to be employed.

M. P. Dubois contended that the employment of the ordinary pessaries would not rectify a deviation of the uterus, and that the intra-uterine pessary was the only means to attain this end. But was

the introduction of this instrument dangerous? Its use causes pains more or less severe, hemorrhages more or less abundant, and sometimes even fatal consequences; but in some cases it occasioned no injurious effects, was followed by temporary relief, and occasionally by permanent benefit. But whatever may be said to the contrary, the intention of the instrument was not attained, for the deviations were not removed. As it was impossible to retain the pessary for an indefinite period, the moment it is withdrawn, the organ falls into its former position. He had tried the stem pessary in about twenty cases, but after about two months treatment the displacement remained the same, although several of these were manifestly relieved. He had observed the same results in patients treated by Simpson and Valleix; and one in particular which had been published by the latter as cured. Valleix applied this instrument to relieve pains in the sacrum, the iliac fossa, a feeling of weight increased by standing and walking, and considerable sensibility of the generative organs. But these symptoms did not belong to displacement, but to very different diseases; the proof of which was that they disappeared, although the displacement persisted. The relief obtained consisted in inducing some peculiar modifications in the sensibility of the uterus, or, by exciting an acute attack upon a chronic disease. Nervous affections of the uterus, and hyperæsthetical conditions were sometimes relieved by the stem pessary. In these cases the patient feels great pain in the genital organs, with generally a little redness of the vulvo-vaginal membrane, which may prevent all approach to sexual intercourse, and be the cause of sterility. The pain sometimes extends to the uterus, and whatever part of the vagina is pressed with the finger, severe pain follows. Valleix uses this instrument much less frequently than formerly, and has gradually reduced the stem portion so much, that it is no longer an intra-uterine support. One of the great reasons of the success of Valleix remained yet to be pointed out, viz., that he did not content himself with the local treatment, but examined carefully into the constitutional condition, and treated this likewise. It was to this that his general success was to be attributed.

M. Caseaux expressed his opinions at considerable length, and summed up with these conclusions: that the intra-uterine pessary is most frequently useless, and often dangerous; that deviations ought to be distinguished from flexions; that simple deviations, though sometimes innoxious, often cause serious consequences; but we possess the means of sometimes curing them, always of relieving them; that accidental inflexions are scarcely ever followed by any consequences, and do not require any treatment; that amongst the accidental inflexions we should only attempt to remove those which follow a displacement; and that in using the uterine sound it is possible to avoid the injurious results, whilst it might render real service.

M. Gibert observed that this discussion, as well as that of 1849, proved that most contrary opinions may be held by the most eminent and talented men, even with regard to the diseases which were appreciable by the sight and touch. During the last thirty years the principal importance had been successively attached, first to chronic metritis, then to ulceration of the neck of the uterus, afterwards to

engorgements of the neck and body of the uterus, to granulation of the internal surface, and finally to displacements of the organ ; and we might predict that these latter affections would not long occupy the great importance now attached to them. Celebrated surgeons have been so led away as to propose and even perform amputation of the neck of the uterus which was healthy, or at least, had no serious disease ; in other females the simple consequences of pregnancy had been regarded as indications of serious disease, for the removal of which the most energetic means had been proposed ; and when we so often meet with pretended patients who after having been submitted to cauterizations, pessaries, hypogastric belts, absolute rest, and sometimes to all the special means of treatment adopted by Lisfranc, and who have continued to suffer until they have got rid of both their fears and all kinds of surgical treatment, we are forced to admit that enormous abuses have been introduced in the treatment of the diseases of females, and that it becomes a right, perhaps even a duty, to point them out. He proposed to change the terms of the first conclusion, thus :

“ The influence of displacements, over the health of females, have been, at present, considerably exaggerated, so also the influence of several other diseases, such as ulcerations, engorgements, granulations,” &c.

He considered the various diatheses, nervous, lymphatic, strumous, syphilitic, rheumatic, gouty, hemorrhagic, as engendering most frequently those symptoms attributed to uterine diseases, and which had particularly fixed the attention of Lisfranc and his pupils ; diseases which, when they really exist, became purely secondary.

M. Velpeau did not think that the other diseases of the uterus were likely to be mistaken for deviations. Where any discharge or other complication existed, he treated that complication before relieving the deviation. It had been said that deviations did not produce any symptoms, because some women were observed to have them and yet to suffer no inconvenience. But all diseases are now and then met with in a latent state, and, moreover, some patients are so constituted that nothing will trouble them. The uterus may be moderately retroverted or anteverted or flexed, without any disturbance except in the menstrual function, and by occasioning sterility. But when these affections are carried to a considerable degree, the uterine ligaments are dragged on, and these contain sympathetic nerves communicating with those of the abdomen. Pressure is also exerted on the bladder and rectum, and hence the frequent desire to pass the urine, the constipation, the hemorrhoidal pains, weight in pelvis, pains in the loins, and shootings in the groin. Thus a female, some years ago, on making an exertion, felt some change in the lower part of the stomach, and from that time had suffered from the preceding symptoms. She could scarcely walk, and that with pain ; these symptoms disappeared on lying down, and returned when erect. On examination, a deviation was discovered ; immediate relief obtained when the uterus was replaced, whilst the symptoms recurred when it again returned. Could there be more direct proof of the symptoms caused by deviations or displacements ? It was

impossible to confound these symptoms with those produced by other diseases of the uterus, as inflammation, tumours, chronic irritation, granular condition of the mucous membrane in the lips of the uterus, &c. It is also correct to say that deviations of the uterus may of themselves cause a series of changes which may, in time, produce real dangers; these changes and dangers varying according to a variety of circumstances depending on the excitability or constitution of the patient. With regard to the treatment of these affections, he considered the means recommended in the report as inefficient, and the intra-uterine pessary as the only efficient means. But the use of this instrument was not without serious inconvenience and sometimes danger.

M. Amussat said, that until lately all kinds of displacements had been confounded together under the term falling-down, or prolapsus, and had been treated indiscriminately by pessaries or hypogastric bandages. He first conceived the idea to introduce a stem into the cavity of the uterus, to relieve displacements, in 1826; but had renounced this plan after losing a patient from inflammation brought on by this instrument. Having afterwards observed several spontaneous cures of displacements and deviations produced by adhesions between the neck of the uterus and the vagina, the results of cauterizations or the prolonged use of pessaries, he had employed a similar method with success, and considered it preferable to all others.

M. Ricord, without entering upon the questions already discussed, drew attention to certain hyperæsthetic conditions of the neck of the uterus and of the vagina, sometimes the consequences or complications of divers displacements or deviations. The hyperæsthetic conditions which give rise to insupportable pains, and sometimes to serious consequences, do not yield to the means of treatment at present employed. In a great number of patients relieved by the recumbent posture, or in whom the pain even completely ceases when in certain positions, when there is simply deviation or displacement, the various belts by augmenting the pressure increase the pain, and pessaries of all forms and composition, which press upon the painful parts, are also insupportable. To relieve these pains it is necessary to displace the uterus from the position in which it causes the pain, and to isolate it, without the means by which this is accomplished pressing against the sensible parts. He believed, with the majority of physicians, that the greater number of women affected with deviations or flexions of the uterus, and falling-down of various degrees, did not even suspect it. Further than this, that the position assigned by anatomists as that of health, was rarely met with, and that many positions we were in the habit of considering as disease, were the natural conformation of the individual, when by altering which we ran a danger of inducing pains and other symptoms. Nevertheless, many females only suffer when the uterus, even healthy, rests in some particular position. To prevent this he had invented an instrument which would support the uterus in a proper position, without entering the cavity of the organ or resting on the vagina. But like all instruments which excited any pressure, it might occasionally be followed by ulcerations and severe symptoms. In conclusion, he considered that as the intra-uterine pessary might be

considered serviceable when carefully applied to the proper cases, he thought it should not be entirely rejected.

M. Robert, as a member of the commission, felt it necessary to explain wherein he differed from the reporter. M. Depaul adopted the doctrine of Lisfranc and Dubois, that deviations of the uterus were inoffensive, and only produced troublous consequences when combined with other pathological conditions. This he considered contrary to observation. For example, a healthy female, on making an effort, or falling upon the breech, feels, at the same instant, a pain or cracking at the lower parts of the stomach. From this moment she suffers more or less; the menstruation becomes disordered; and the uterus is found retroverted, painful, swollen, &c. In these cases he considered the retroversion as the result of the accident, as the first step in the disease, and the cause of the pain, swelling, dysmenorrhœa, &c. He also considered that prolonged lying on the back would produce deviation of the uterus, having observed, in two cases, complete retroversion after death in women who had long been confined to bed in this position. There were no symptoms during life of any uterine affection. In other cases serious consequences follow deviations, which require direct means for their reduction. Displacements following chronic metritis, uterine catarrh, or inflammation of the cellular tissue surrounding the uterus, were observed chiefly after severe confinements, or abortions. When the deviation is consecutive to the organic alterations, we must treat those alterations previous to attacking the displacement. But can we suppose that it is unimportant to leave the uterus in the unnatural position which it occupies? When the uterus is retroverted, it is unfavorably placed for the circulation of the blood; by resting on the rectum, pain is occasioned by the passage of the fæces; by pressing against the sacral nerves, it produces pain, which tends to excite a troublesome irritation of the nervous system. These facts he considers ought to be taken into serious consideration. As to diagnosis, he endeavoured to prove that this was frequently very difficult; that the pathognomonic signs indicated by Velpeau and Malgaigne—notable decrease or entire cessation of pain on assuming the recumbent posture, and the way in which they bore the hypogastric belt—were inconclusive; and that the other symptoms, as weight at the perinæum, constipation, frequent desire to pass the urine, pains in the groins, &c., were also present in the other organic affections of the uterus.

M. Depaul, before replying to the various objections, remarked, that the principal question was whether intra-uterine pessaries lead to permanent replacement of the uterus, and whether their use did not so frequently entail serious consequences, that their further use ought to be removed, although their utility to a certain degree was acknowledged. M. Huguier had stated that the intra-uterine pessaries ought only to be used in those cases which resisted all other means of treatment. He could fearlessly affirm that these were scarcely met with, during a long career; whilst M. Huguier had abandoned this method, either in consequence of its dangers, or from its inutility. When employed as a cure for amenorrhœa, it was impossible to say whether the discharge was menstrual, or only accidental hemorrhage. He contended

that he had shown from the observations of those favorable to the use of pessaries, that the influence of displacements had been greatly exaggerated. "M. Hervez de Chegoin had been more severe than himself in his judgments respecting intra-uterine pessaries, the facts published not leaving the least doubt in his mind of the extreme danger of this method of treatment. He protested against the injustice of M. Caseaux's accusation that he had quoted only the unfortunate and suppressed the successful cases. He had mentioned all he knew. Where were the successful cases to be found? If M. Caseaux knew of them, why did he not give the cases? The opinion that deviations were unimportant deformities without producing any injurious influence on the health of the female, was supported by his own researches, and in perfect accordance with the opinions of most celebrated men, and particularly Lisfranc and P. Dubois. Moreover, the practice of M. Caseaux was not in accordance with his theory. For in a case communicated to M. Depaul, where there was engorgement of the neck of the uterus with ulceration, and complicated with procidentia and retroversion, he first subdued the condition of neck of the organ, and afterwards applied a pessary (Gariel). Unless he could produce observations and not assertions only, M. Depaul must continue in his opinion, which is founded on numerous facts. It is much to be regretted, moreover, that he did not mention the precautions by which the uterine sound might be used without unfavorable consequences. After the numerous facts contained in the report, and those communicated by M. Dubois, there did not remain any doubt of the accuracy of his statements—that when the uterus was flexed it was never restored, or when displaced never returned to what was considered its natural position. Did not these facts overturn the doctrine on which the use of the intra-uterine pessary was founded? The benefit sometimes derived from this use being attributed to the other means simultaneously employed, and to the modification induced in the sensibility of the organ. Amussat and Velpeau had both used the intra-uterine pessary many years ago, but soon gave it up, in consequence of the serious consequences following its employment. Nor had they in their subsequent practice again employed it, although they now spoke in its favour. Was it nothing that twelve females, suffering from uterine affections which did not compromise their lives, and which might be relieved and cured by safe means, had died from the employment of these pessaries? Was it nothing that an infinitely greater number of cases of metritis, peritonitis, pelvic abscesses, hemorrhages, nervous affections, &c., had occurred, which, although they were subdued by active measures, yet caused considerable anxiety and great danger to the patient? Was it nothing that numerous abortions had been induced, and that a new method of criminally inducing this had been opened out? M. Depaul terminated his reply by submitting the following conclusions, in the name of the commission, with the exception of the third, in which he was at variance with his colleagues.

1. The cases communicated to the Academy, together with many others on record, prove that the use of the intra-uterine pessary very often gives rise to serious accidents, and even sometimes to death.

2. In the rare cases where this instrument has appeared productive of advantageous results, it has not been proved that it has always acted by replacing the uterus.

3. In some exceptional cases where the deviations of the uterus have occasioned serious functional derangements and all known therapeutical means have been tried in vain, the application of the intra-uterine pessary may be tried as a last resource.

*On some of the Diseases of Women admitting of Surgical Treatment,*

By ISAAC BAKER BROWN, F.R.C.S., Surgeon-Accoucheur to St. Mary's Hospital. (8vo, 1854, Churchill, pp. 288.)

Most of our readers are doubtless familiar with the skilful and successful surgical operations of Mr. Baker Brown, as reported from time to time in the public journals, and to such this volume will be very acceptable. It consists of thirteen chapters, or rather essays, upon diseases or accidents which Mr. Brown has endeavoured to remedy by surgical operations. The subjects are lacerated perineum, prolapse of the vagina, prolapse of the uterus, vesico-vaginal fistula, recto-vaginal fistula, lacerated vagina, polypus of the uterus, stone in the female bladder, vascular tumour of the meatus urinarius, imperforate hymen, encysted tumour of the labia, diseases of the rectum from certain conditions of the uterus, and ovarian dropsy. Different sections are illustrated by engravings, and especially by good engravings of the various instruments employed by the author.

We think that the first chapter is perhaps the best in the book, and that the treatment proposed is the greatest improvement upon the ordinary method. After speaking of the frequency, causes, varieties, and prevention of laceration of the perineum, the author thus graphically describes the consequences :

"The consequences entailed by a laceration of the perinæum will depend on its extent: they may be slight and temporary, or so severe as to render life miserable; the latter only require to be detailed, and to any one who attentively considers the relative anatomy and functions of the parts, they will seem very obvious. The triangular chasm of which the perinæum forms the floor, has the rectum tending downwards and backwards as its posterior wall, and the vagina passing downwards and forwards as its anterior; consequently, when the two lips of a ruptured perinæum are drawn asunder, the prominent convexity of the posterior wall of the vagina is brought into view with its transverse rugæ; and when the injury is of old date, all this is much hypertrophied and hardened. Again, the laceration may have penetrated so as to lay open the vagina, tearing asunder the sphincter ani and recto-vaginal septum, thus converting the opening of the two canals into one.

"Acting as the perinæum does in the way of a counterpoise to the downward pressure of the diaphragm on the abdominal and pelvic viscera, its laceration deprives the latter of their natural support; hence the proclivity to prolapse of the uterus, of the bladder, and of the rectum, and their attendant symptoms.—dragging pains from the loins, interference with the functions of the bladder, leucorrhœal discharges, inca-

ference with the functions of the bladder, leucorrhœal discharges, incapability of exertion, even of ordinary exercise, inability to go up or down stairs. Again, when the sphincters are torn their functions are lost, the faeces and intestinal gases pass uncontrolled. Hardened faeces may certainly be in a measure retained, but when at all fluid, they will escape quite involuntarily, entering the vagina and adjoining parts. Such circumstances necessarily confine the afflicted person to her house or room, exclude from all society, and render existence miserable. They may even induce disgust on the part of the husband towards his unfortunate wife, and render her companionship odious. No patients, indeed, ought to be more the objects of our profound commiseration, and of our liveliest sympathy. If any condition could incite us to devise remedies, it surely would be this, in which the patient may have all the bodily and mental functions in health and vigour, but be by this accident so cut off from all the pleasures and comforts of existence, that death seems preferable to life, and any means appear justifiable and are sought for, which promise temporary quiet or oblivion."

A very full account is given of the different attempts which have been made by German, French, and British practitioners to remedy this accident; after which Mr. Brown proceeds to describe his own method, premising a notice of the variation in the treatment required in three of the four species or degrees of laceration he has described. The period of operating may be immediately after labour, or subsequently, but the sooner the better, and the counter-indications are pregnancy beyond the fourth month, or suppuration and inflammation. We do not ourselves feel quite so certain of the safety of exposing a patient to the operation immediately after labour.

The proper instrument (p. 34) being provided, the bowels emptied, and the parts cleansed, the patient is to be placed under chloroform, and "placed in the position for lithotomy, the knees well bent back upon the abdomen, and all hair closely shaved off about the parts. The sides of the fissure should be held by an assistant so as to insure sufficient tension for the operator; a clean incision is now to be made about an inch external to the edges of and equal to the fissure in length, and sufficiently deep to reflect inwards the mucous membrane, and so to lay bare the surface as far as another incision on the inner margin. The denudation of the opposite side of the fissure is then to be practised in a similar manner, and the mucous membrane from any intermediate portion of the recto-vaginal septum to be also pared away.

"This denudation must be perfect, for the slightest remnant of mucous membrane will most certainly establish a fistulous opening when the rest of the surfaces have united.

"Some operators, especially the continental, remove the mucous membrane by scissors, but this is a clumsy and unsafe method, and the knife will be found to effect the purpose quicker and better.

"*Division of the Sphincter.*—So soon as this stage of the operation is completed, the sphincter ani is to be divided on both sides, about a quarter of an inch in front of its attachment to the os coccygis, by an incision carried outwards and backwards. The incision should be made by a blunt-pointed straight bistoury, which, having been introduced within the margin of the anus, guided by the forefinger of the left hand, is

quickly and firmly carried through the fibres of the muscle and through the skin and subcutaneous areolar tissue to the extent of an inch, or even two, external to the anal orifice.

“The degree of relaxation to be sought must be regulated by the extent and character of the laceration ; it being remembered that the freer the incision the greater will be the amount of relaxation obtained. In every case, muscular traction must be destroyed, for so long as it exists it will oppose the union of the parts.

“*Insertion of the Quill Sutures.*—The sphincter having been divided in the manner just stated, the thighs are to be approximated, and then the quill sutures introduced. The left denuded surface and tissues external to it being firmly grasped between the forefinger and thumb of the left hand, a strong needle carrying a double thread is plunged, with the right hand, through the skin and subjacent tissue an inch external to the pared surface, and thrust downwards and inwards beneath it until its point reappears on the edge of that surface ; it is then introduced at the corresponding margin of the denuded space of the opposite side, and made to traverse beneath it in a direction upwards and outwards until it escapes at a point equidistant from the external margin with that at which it entered on the left side. Each of the three sutures is to be introduced in the same way, the one nearest the rectum first.

“The sutures are double, to allow them to enclose the quills, or (as actually used) the pieces of elastic catheter or bougie, around which they loop on one side, and are tied over, by their free ends, on the other. For sutures I prefer stout twine, well waxed, to silk, as I believe it to be less irritating and productive of less suppuration.

*Insertion of Interrupted Sutures.*—Having firmly secured the three sutures upon the bougies, the sides of the fissure become approximated, —the denuded surfaces in apposition. To bring together the outer margins, along the line of the skin, it is advisable to pass three or four interrupted sutures. If this be carefully done, union of the skin will speedily take place, and that of the deeper parts be materially facilitated. As an accessory or superficial suture, the twisted form is used on the Continent ; but I think the interrupted more simple, and have found it answer completely.

“I should recommend, previously to bringing the operation to a close, that the forefinger of the right hand should be passed into the vagina, and that of the left into the rectum, so as to ascertain that apposition is complete throughout.

“Lastly, the parts having been well cleansed by sponging with cold water, a piece of lint steeped in cold water is applied, and over it a napkin kept *in situ* by a T bandage.”

The after treatment consists in perfect quiet, placing the patient on her left side, ice internally, and two grains of opium at once, and one grain every four or six hours. Beef-tea and arrow-root may be given, but not wine, unless there be signs of flagging. The urine should be drawn off every four or six hours for eight or nine days. The deep sutures should be removed on the third or fourth day, with hospital patients ; on the fifth or sixth, with private patients. On the sixth or seventh day the external sutures may be removed.

The reader will perceive that the use of chloroform, the incision of

the sphincters, the improved diet, and the constipation of the bowels, are the distinguishing characteristics of the operation, as practised by Mr. Brown. Against each of these points some objections have been raised, but we think unsuccessfully, and we frankly accept Mr. Brown's modifications as decided improvements. The results in the 18 cases he has appended, are, in fact, his best justification.

*Vaginal cystocele*, which when considerable, is a most distressing affection, Mr. Brown proposes to remedy by a plastic operation, consisting in the removal of a strip of mucous membrane from the posterior edges of the vaginal orifice, and a strip of mucous membrane from each side of the vulva, the different steps of the operation resembling the one already described, as well as the after treatment. Five cases of cure are given.

The operation for *vaginal rectocele* is in principle the same, and the results in the three cases related, are equally satisfactory.

Mr. Brown has bestowed much care upon that "opprobrium of surgery" *vesico-vaginal fistula*, and with some success, for out of four cases related by him, one was cured, and remains so; another was cured of the fistula, but died of pleurisy, and the two remaining cases were benefitted. Every one, who has tried, knows that it is easy to reduce the opening, the difficulty is "to put in the last stitch" successfully. Mr. Brown's method of operating is as follows:

"The patient should be placed either in the position for lithotomy, on her back, or still better, in the prone position as recommended by Dr. Marion Sims, as follows:—'The knees must be separated some six or eight inches, the thighs at about right angles with the table, and the clothing all thoroughly loosened, so that there shall be no compression of the abdominal parietes. An assistant on each side lays a hand in the fold between the glutei muscles and the thigh, the ends of the fingers extending quite to the labia majora; then by simultaneously pulling the nates upwards and outwards, the os externum opens, the pelvic and abdominal viscera all gravitate towards the epigastric region, and stretch this canal out to its utmost limits, affording an easy view of the os tincæ, fistula, &c. To facilitate the exhibition of the parts, the assistant on the right side of the patient introduces into the vagina the lever speculum, and then by lifting the perinæum, stretching the sphincter, and raising up the recto-vaginal septum, it is as easy to view the whole vaginal canal as it is to examine the fauces by turning a mouth widely open up to a strong light.'

"Another very good plan for placing the patient has been recommended by Dr. Hayward, of Philadelphia, as follows: 'The patient being previously etherized, the bladder is brought down by introducing a large-sized bougie (one made of whale bone highly polished is to be preferred) into the urethra, to the very fundus of the bladder, and carrying the other end up to the pubis. In this way the fistula is readily brought in sight. Its edges can be pared with the scissors or a knife; though usually both these instruments are required; and this part of the operation is much facilitated by holding the edges by means of a double hook. It is not difficult to dissect up the outer covering from the mucous coat of the bladder, to the distance of two or three lines. The needles are then to be passed through the outer covering only, and as many stitches must be

introduced as may be found necessary to bring the edges of the fistula in close contact.'

"The edges are to be pared by making an incision about three lines on each side of the fistulous opening, through the mucous membrane of the vagina (by means of a sharp-pointed knife with a long handle, as described in fig. 7), and then carefully dissecting off the mucous membrane; a pair of long forceps made on purpose (see fig. 8) being used to seize it. This done, a needle armed with silver or platinum wire, if that substance be used, is passed three or four lines from the edge of the incised surface, and made to penetrate the vaginal mucous membrane, and some of the fibres of the muscular coat of the bladder, but not through its mucous coat; to ascertain this it is better to introduce the little finger of the disengaged hand through the urethra into the bladder. The needle should next be carried through the opposite side of the fistulous opening, and brought out at the same distance from the edge of the denuded surface as it was first inserted. Two, three, or more sutures, according to the size of the opening, should be introduced in a similar way. Various forms of needles have been suggested for this operation. I myself use those made at my suggestion by Mr. Blaise, of the firm of Savigny and Co."

Then follows a description of these needles, illustrated by excellent cuts, for which we must refer our readers to the work itself, and after this Mr. Brown proceeds :

"So soon as the sutures are made fast, free incisions should be made through the vaginal mucous membrane, and through some of the muscular fibres of the bladder, distant about four to six lines on each side of the closed wound, so as to relieve any traction upon the apposed surfaces. The principle of this expedient is precisely similar to that recommended in my operation for ruptured perinæum, as also in that for cleft palate, as recommended by Fergusson, and is one of the greatest practical importance. This is fully dwelt on by Jobert.

"*After-treatment.*—The patient should be placed on a water-cushion on her side, the hips being elevated and the knees flexed upon the abdomen. A catheter should be introduced, bent in a serpentine direction, so that the end within the bladder is turned up behind the arch of the pubes, on which it rests. To the other extremity should be attached an elastic bag, capable of holding from four to six ounces. Two grains of solid opium should be given immediately, and one grain every four or six hours for the first twenty-four hours, and afterwards once in twelve hours until the sutures are removed. This will prevent pain and also keep the bowels quiet. A bland and generous diet should be allowed, and wine is often required from the very commencement. The vagina should be syringed once a day with cold water so as to insure cleanliness."

The special point in the operation for *polypus uteri*, recommended by Mr. Brown, consists in the excision of the morbid growth immediately after the application of the ligature, instead of either waiting twenty-four hours, or until the polypus is separated by sloughing. We do not admire the latter plan ourselves, but we think that when the stalk of the polypus is thick, and probably containing large vessels, it is better upon the whole to wait a little for the effects of the ligature. The operation is thus performed :

"The patient is placed in the position for lithotomy, under the influence of chloroform, the vagina gently opened by retractors, when the polypus is seized by a pair of vulsellum forceps with long handles, and if the pedicle be small, a ligature is passed round it by the fingers; if large, a long needle (represented in figures 1 and 2), carrying a double ligature, is passed through the centre of the pedicle and tied on both sides. The polypus is then removed either by a pair of curved scissors or a blunt-pointed bistoury. A piece of lint soaked in a strong solution of alum is then applied to the cut surface, so as to prevent any chance of even slight hemorrhage. If hemorrhage should occur, even after this application, the actual acutery should be applied through a speculum."

We quite agree with Mr. Brown, that the ordinary operation for *imperforate hymen* is not quite without danger, though we cannot say that any explanations as yet given have satisfied us of the mode in which it is produced, nor have we seen the ill effects of the crucial incision which Mr. Brown describes. At the same time we are not prepared to deny that this proposal is an improvement. He remarks:

"When the surgeon is consulted in the case of a young female before the age of puberty, on account of an occlusion of the vagina, it will generally be found that the united parts may be separated by the thumb of each hand being applied, and some little force being used, the child being placed in the lithotomy position. Cutting is rarely required in children. A piece of oiled lint should be introduced to prevent reunion of the separated parts, after they have been thus torn asunder. If the obstruction is of a longer standing, and the tissues are thickened and indurated, then the question to be considered is, how is it to be divided? Every author who has written on the subject recommends a crucial or stellate incision. This leaves the divided portions of the hymen to retract and remain on each side of the vaginal orifice; and when the operation is performed in the earlier stage, before puberty, or a few years afterwards, these relics of the thickened hymen may create no irritation of consequence; not so, however, when the patient has passed her 25th or 30th year; the divided portions do not then shrivel or pucker up, so as to create no inconvenience. On the contrary, vaginitis is very apt to be set up by the friction of these surfaces upon each other, produced by every movement of the body. It is easy to understand how inflammation thus set up in the mucous membrane of the vagina may extend into the uterus, Fallopian tubes, and ultimately to the peritoneum. I would therefore throw out the question, whether the frequent occurrence of peritonitis after this operation, simple as it appears to be, may not thus be explained.

Being strongly convinced that these two methods of dividing the hymen, namely, by the crucial and stellate incision, attended as they are by so many inconveniences, and, as I believe, dangers, are not so eligible as a more perfect surgical procedure, by which the whole of the abnormal structure is at once removed, I recommend that the hymen be removed entire by a circular incision at the point of its junction with the labia."

That anteversion and retroversion of the uterus may produce ill effects by pressure upon the rectum, is what we might expect in many cases.

"The conditions of the uterus under consideration act on the patient

injuriously in two ways: first, by mechanical pressure; and, second, by inducing vascular disturbance like that present in themselves. An enlarged uterus drags on its lateral ligaments, elongates them, subsides lower down in the pelvis, and so comes to press on the lower bowel, to interfere with its muscular action and the circulation through its blood-vessels, and to irritate its mucous lining. At the same time any hyperæmic state of the uterine vessels causes an increased fulness of the hemorrhoidal, and a determination of blood to them. Thus, by reflecting on the anatomy of the parts, it will easily be understood why and how diseases of the rectum, such as hemorrhoids, prolapsus, fissure, stricture, fistula, as well as disordered functions of the bowel, as constipation, dysenteric irritation, &c., do sometimes result directly, either from the mechanical pressure of an enlarged uterus, or simply from the derangement of the hemorrhoidal circulation, resulting from uterine disease.

"By retroflexion and retroversion, the fundus uteri is thrown backwards against the rectum, and will consequently exercise an amount of compression on that viscus, according to its degree, to the bulk of the uterus and the capacity of the pelvis. Retroversion is occasionally so complete that the fundus uteri depresses the posterior peritoneal cul-de-sac, and even descends below the level of the cervix. Now, as deviation of the uterus posteriorly is no unfrequent consequence of distended bladder—a common occurrence in females—owing to their natural reserve, and the restraint imposed by our social habits, and as its ulterior effects on the rectum must be expected, we so arrive at one reason for the greater prevalence of diseases of the rectum among them.

"In anteversion and anteflexion, the fundus falls forwards against the bladder, and thus the cervix uteri will impinge against the rectum more or less, according to the extent of the deviation, the size of the womb, especially of its neck, the capacity of the pelvis, and the degree of fulness of the bladder, which in these displacements has its outlet more or less obstructed.

Mr. Brown's method is first to remove or remedy the displacement, and then treat the secondary affection, and we are glad to perceive that his endeavours to effect the former are by removing the causes upon which the displacement depends, and not by mere mechanical support.

The last and longest essay is that upon ovarian dropsy, and without entering upon the question as to pathology or symptoms, we shall endeavour to lay before our readers the views and operations which are peculiar to Mr. Brown. As, however, the diagnosis of these tumours is of extreme importance, we beg our reader's special attention to this section—it is too long for quotation, but it is as valuable and lucid a summary as any we know. In tapping the ovary Mr. Brown lays the patient on her side, and prefers a large instrument, but he correctly states that by this operation alone we have no reason to expect a cure. Not so, however, when it is followed by pressure, for he has given us two cases of cure.

"*Tapping with pressure* should always be combined, both as a matter of precaution when the origin of the cyst is obscure, and as affording an increased probability of cure in any case. Like every other simple ope-

ration, the application of pressure may fail from inattention and carelessness. First of all, compresses of linen or lint should be so arranged as to present a convex surface, adapted as nicely as possible to the concavity of the pelvis. Over these compresses straps of adhesive plaster should be applied so as to embrace the spine, meeting and crossing in front, and be extended from the vertebral articulation of the eighth rib to the sacrum. Over this strapping either a broad flannel roller, or, still better, a band with strings and loops which tie in front, may be applied; or a well-made bandage, which by lacing in front may be gradually tightened, as made at my suggestion by Mr. Spratt, 2, Brook-street. These bandages must be prevented from slipping upwards by a strap around each thigh. Both the compresses and the bandages will require watching and adjusting from time to time, lest by unequal pressure, the bowels or bladder be subjected to inconvenience. Also the crest of the ilium should be guarded with thick buffalo skin or amadou plaster.

"The effect of pressure, before tapping, is fourfold in its operation. It sometimes retards the filling of the cyst; it may prevent the increase of the tumour; it sometimes brings about absorption of the whole contents; or, lastly, it may produce a rupture of the cyst into the vagina, rectum, or peritoneum. After tapping, pressure tends to prevent the refilling of the cyst, probably by compressing mechanically the blood vessels which supply the fluid. The use of pressure is countenanced by its known good results in dispersing various tumours, or in arresting their growth. When tapping, with pressure, is resorted to as a means of cure, or even with the view only of retarding the process of ovarian dropsy, medicines to stimulate the functions of the various abdominal organs, to correct faulty secretions, and generally to improve the health and strength, should also be administered.

"The use of tapping with pressure and auxiliary medical treatment, I consider most applicable to unilocular cysts without adhesions, with clear and not albuminous contents, and where time and the condition of the patient admit of its persevering application. There are also cases of multilocular disease, and others where adhesions exist, where pressure may do material good, and retard the growth.

"This plan of treatment I first suggested in 1844, and the results have been published from time to time in the 'Lancet,' not only by myself, but by other practitioners who have been induced to give it a trial. For the particulars of those already published, I must refer the reader to the 'Lancet.'

"Besides those cases which have appeared in the 'Lancet,' I have had several others which have proved entirely successful. Certainly, the result of some has disappointed me, where I had hoped to have effected a permanent cure; but, even in such, great benefit has been derived from the plan, the patients have regained health and comfort, and the disease has for a time been suppressed. Further, in some instances where ovarian dropsy has reappeared, it has been in consequence of the development of new cysts, an event to be wholly prevented only by resort to extirpation of the entire diseased ovary.

The operation from which Mr. Brown seems to expect much, is Le Dean's proposal of establishing an artificial oviduct with the variation of "making the opening in the semilunar in preference to

the mesial line." Three cases are given, and though the patients died, Mr. Brown does not attribute that to the operation, which he thinks succeeded to a certain extent.

"The excision of a portion of the cyst is an operation more free from danger than complete extirpation, and less tedious in its results than the formation of an artificial oviduct. But it has a limited application. The conditions likely to favour its success, are:—'The cyst unilocular, its walls thin, and possessed of little vascularity, very few or no adhesions, the fluid only slightly albuminous, and of light specific gravity. When these favorable circumstances coexist with unimpaired general health, or very little ailment, then only should this operation be performed. If pressure had been tried without success, or was interdicted by the existence of prolapsus uteri, or by any other objection, an additional reason to try this operation would exist. Now, by preferring the longer incision, and being prepared to extirpate the whole cyst if necessary, the surgeon will be able to explore the parts to ascertain which operation is most eligible. For instance, if the walls of the cyst are found thicker and more vascular than was expected, it will be safer to proceed to extirpate the entire cyst, after tying its pedicle, than to run the risk of profuse hemorrhage by cutting out a portion. Or, if the cyst is found to be thin, unilocular, unattached, and unvascular, and the fluid thin, then the plan of excising a portion may be adopted with reasonable prospect of success.

"The operation consists in excising a portion of the cyst, returning the remainder into the abdomen, and then, closing the wound with sutures, to allow any fresh fluid secreted by the remaining portion of the cyst, to escape into the cavity of the peritoneum, there to be taken up by absorption and discharged by the kidneys. This method of treatment was suggested to my mind (before I was aware that it had been previously practised) by reflecting upon the numerous cases on record in which spontaneous recovery has occurred after an accidental rupture of the cyst and subsequent copious discharge of urine. One case especially impressed me with the importance of attempting such an operation; namely, that of a young lady, who had been long treated by Dr. Henry Davies for ovarian dropsy. In this case spontaneous bursting was followed by complete disappearance of the disease and non-recurrence of dropsy. She died ten years afterwards of inflammation of the dura mater. On the post-mortem examination it was found that the cyst had collapsed and shrunk, and that a fissure of some size existed, which was probably the original rent through which the cyst had burst."

Two cases are given in which this method succeeded, though not without symptoms arising which caused much anxiety.

Mr. Brown is by no means disposed to take an unfavorable view of the operation of ovariotomy when undertaken in suitable cases, at a suitable period, and under suitable conditions. These latter are thus enumerated:

"1. The surgeon should be satisfied by most careful and repeated examination,—that the tumour is ovarian; and those with whom he may consult should take equal pains to form an unbiassed opinion. The diagnostic signs it is not necessary here to repeat.

"2. That the tumour is increasing, and that the disease will be likely to progress to a fatal issue if allowed to take its course.

"3. That such of the different modes of treatment already described, as appear to be suitable to the case, excepting the excision of a portion of the cyst, have been fairly tried with lasting benefit.

"4. That the tumour is not cancerous.

"5. That the patient is not so reduced in her general health and vigour, as to render her an unfit subject for a formidable operation.

"6. That there is no evidence of the existence of adhesions.

"7. That the fluid is not highly albuminous.\*

"These conditions being present, the next question is, at what stage of the disease should the operation be performed? Should we wait till life is brought into immediate and imminent danger, so that any measure, however desperate, might be justifiable, which presented the faintest prospect of affording relief:—or should the earliest period be chosen after the necessity of the operation has become unequivocally apparent? On this question, a variety of opinion exists; some of the advocates for the operation only approving of it as a forlorn hope; others, believing with Dr. Druitt, that 'it is by far the *most merciful* plan of treatment *if adopted early*,' and that 'the reason for running the risk will be much the strongest in the case of a young, healthy person, whose life, if spared, might be long and valuable.' I am persuaded that on this question hang chiefly the results, whether fatal or favorable, of the operation, and I therefore adhere most strongly to the latter opinion. I consider that the risks of the operation are becoming greater every year the disease exists. The tumour and its coats and pedicle are always growing, its chances of contracting adhesions are multiplied, and the patient is getting older, and most probably less able to endure the shock every year she lives. Indeed, I should as soon be persuaded to delay the operation for strangulated hernia till the symptoms of approaching gangrene became apparent, as to delay to extirpate an ovarian cyst, when I had once determined that it must be done. I believe that if early, and otherwise favorable cases, were selected for operation, the mortality would be very small. This opinion I give advisedly, after a thoughtful review of all the cases on record, as well as of my own. After tapping and pressure have failed, and the cyst begins to fill, the chances of success in ovariotomy, as well as in the operations above described, will be, *cæteris paribus*, determined by the promptness with which the operation is performed; and it is very important that it should not be deferred till the strength of the patient is exhausted by the disease, or abdominal or pelvic mischief has been done by the weight or pressure of the tumour. I therefore differ from those who advise that no operative procedure take place, until the tumour seriously interferes with the healthy action of the abdominal organs.

As to the preparations for the operation, its mode of performance, and subsequent dangers we prefer to let Mr. Brown speak for himself.

"1. If the weather be cold, the patient should have, ready to wear, a flannel waistcoat, and a pair of flannel drawers: the waistcoat should be put on before the operation.

\* Believing as I do that the highly albuminous condition of the fluid exhausts the system in a similar way to that of albuminuria from disease of the kidney, I consider that it contra-indicates an operation as clearly as the latter disease. The nature of the contents may be readily discovered by withdrawing a little by an exploring needle.

"2. She should have a warm bath the night before the operation, to cleanse the skin, and thereby insure free perspiration after the operation.

"3. The bowels should be opened by a dose of ox-gall or castor oil, and an enema, on the morning of the operation day.

"4. A hot water-bottle should be prepared for her feet.

"5. There should be a thermometer in the room, and the temperature should be kept systematically at not lower than 66 degrees, nor higher than 70 degrees. A kettle should also be boiling on the fire, so as to make it possible to insure a degree of moisture in the air by the steam. This is especially requisite when the wind is in the east, or the weather hot and dry.

"6. If the operation take place on the bed which the patient is afterwards to occupy, the lower part of it should be prepared and guarded by a macintosh sheet and an old blanket, which can be afterwards removed. There should be a hassock or stool for the feet to rest upon. The feet and legs should be clothed in warm stockings, and the hands and arms enveloped in a warm flannel gown.

"7. As the patient will have chloroform administered, she should not take any food for some hours previous to the operation; and to avoid sickness afterwards, a supply of ice should be procured for her to suck for two or three hours *before the operation*. *This is of much consequence.*

"8. There should be plenty of hot water in the room, in which, in cold weather, both the operator and his assistants should immerse their hands before touching the patient; and there should be from three to six basins of warm water ready for immersing sponges or warming the flannels, &c.

"9. The duties of each assistant should be clearly assigned and understood before entering the room, so as to avoid confusion, and also to *save time*, an important point when the peritoneum is exposed.

"10. Four or six large needles should be got ready, armed with the best twine, well waxed, for the interrupted suture; and one large needle to carry the double ligature (also of twine, not of silk,) for the pedicle. Several smaller ligatures for blood-vessels should also be ready; and a flannel bandage to go round the abdomen after the operation is completed; also a supply of lint and a few adhesive straps.

"11. *Instruments.*—One or two scalpels, a pair of scissors, a pair of Vulsellum forceps, a pair of good common forceps, tenaculum, trocar, and canula of large size, together with the needles and ligatures, should be ready on a tray.

"*Lastly.*—As much will depend upon the after treatment, it will be well to arrange beforehand that the operator, or some other competent surgeon, should remain with the patient all night. Indeed, she should not be left for more than two hours at a time for the first three or four days.

*Mode of operating.*—"The patient being placed conveniently on her back, and brought under the influence of chloroform, an exploratory incision, from two to three inches in length, should first be made in the linea alba. Having divided the peritoneum and reached the cyst, two or more fingers should be passed over its surface to ascertain if adhesions exist;—if these are slight and recent, they should, if possible, be broken down by the fingers or if they are few, and small in diameter, so as to bear division, they may be first tied to guard against haemorrhage, and afterwards divided; but

if they are spread out to a considerable breadth, it is better to desist from any further procedure with a view to extirpation. If, on the contrary, there are no adhesions, or only such as can be easily broken, the incision should be enlarged to the extent of four inches, or more if necessary: the next step is to tap the cyst or cysts with a proper trocar and canula, and in the evacuation of the fluid, to take care that none of it escapes into the cavity of the abdomen. Then, if there is only one cyst, and that not thick nor vascular, a portion of it only may be excised, in the manner described in the section 'On Excision of a Portion of the Cyst.' If the cyst, however, should be found to be thick or vascular, or multilocular, it will be the safest procedure to have recourse immediately to complete extirpation in the following manner. The pedicle of the tumour is to be taken in the left hand, and gently drawn outwards from the pelvic cavity,—an assistant carefully keeping back by warm flannels the bowels and omentum. The course of the blood-vessels in the pedicle should now be carefully observed, so that the latter can be safely punctured by a scalpel or bistoury, and through the opening thus made an aneurismal needle, carrying a double ligature of the strongest twine, be passed, and firmly tied on each side of the pedicle. Mr. Wilson advises, that instead of passing a ligature round the pedicle, each vessel should be tied separately. This some regard as an important improvement. This ligature should be passed as near to the tumour as possible, so that, by the entire length of the pedicle being preserved, the ligatured end may be kept external to the abdominal cavity together with the ligature, as recommended by Messrs. Duffin and Erichsen. This done, the tumour should be removed by dividing the pedicle half an inch from the ligature, which should be given to an assistant and held at the inferior end of the opening. The operator then closes the wound—and this, I need hardly say, should be done, as in all operations exposing the peritoneum, as soon as possible—by introducing deep sutures about an inch from the incised edges, through the parieties of the abdomen, taking care to avoid the peritoneum. These sutures should be about half an inch apart. The edges of the wound should then be more carefully brought together by superficial interrupted sutures occupying the intermediate spaces between the deep ones. It now only remains to prevent the end of the pedicle and the ligatures from returning into the abdomen. For this purpose, a common director, with its convex surface turned towards the abdomen, should be passed through the ligatures, so as to be firmly held by them at right angles to the wound. The ends of the ligatures should now be secured to the abdomen by adhesive plaster, and the wound dressed with common water dressing. This done, the abdomen must be supported by a many-tailed flannel bandage, comfortably tight, the patient be placed in bed, and warmth applied to the extremities. Two grains of opium are to be at once given, and one grain repeated every three or four hours until pain is allayed. Ice, milk, barley-water, or weak broths, should constitute the diet for the first twenty-four hours; afterwards stronger animal broth may be allowed, and wine, if the condition of the patient admit of it. It is better, if possible, that the bowels should be confined for four or five days after the operation. The bladder should also be emptied every six hours by the catheter. The temperature of the room should be carefully maintained for the first week after the operation.

"I have not enjoined the use of any particular length of incision, for this matter must, I am of opinion, be regulated by the special circumstances of each case; the rule on the surgeon's part being to extract the cyst with the least danger to the patient, and through the smallest practicable incision without incurring a risk of failure in the operation. A small incision, of an exploratory nature, should be the first; if the operation be proceeded with, it must be enlarged sufficiently to admit the extraction of the apparent cyst, and further increase will be very easy, if, by its peculiarly compound nature, its position or relations, or other circumstances demand it.

"The long, the median, and the short or small incisions, have each had their advocates, and their relative advantages been hotly debated; and statistics have been adduced to show that fewer deaths attend the smaller incisions. Such discussions I regard as of little moment, and the attempt to fix a certain length for the abdominal section in all cases, as frivolous. As well might operative surgeons debate on, or endeavour to fix the exact number of square inches the flap of an amputated limb ought to have, without reference to the muscularity or fatness of the extremity, or to any other special circumstance which ought to weigh in the management of each individual case.

"It is desirable, when the diseased ovarian mass of one side is removed and before the abdominal incision is closed, to look at the condition of the other ovary, which not uncommonly is also diseased, and when such is the case, may be at once removed. An instance of this sort is described by Dr. Peaslee, in the 'American Journal of Medical Science,' for April, 1851, in which a cyst the size of a pullet's egg was discovered on the right ovary, and the whole organ was diseased. A double ligature was passed through the broad ligament, and the ovary removed; the ligatures were drawn out through the wound at the nearest point.

"The dangers to be apprehended after ovariectomy are—*a.* The shock of the operation; *b.* Hemorrhage; *c.* Acute inflammation—peritonitis; *d.* Inflammation of a low or typhoid character.

"*a.* Now that we have the benefit of chloroform, the dangers from the shock of the operation are greatly lessened. But in some of high nervous susceptibility and debilitated frame, the shock may be fatal or severely felt, even although chloroform has been employed during the surgical proceedings, and the patient has not regained consciousness until they are over and the wound dressed. Like similar cases from other operations, these demand the use of stimulants, and other means of support.

"*b.* Hemorrhage is, unfortunately, not so uncommon; the source of it being mostly from the cut pedicle or supporting base of the tumour. It will be seen, however, that in one of my cases the fatal bleeding had its source in the divided vessels of an adhesion; and it is this event which has induced me to recommend the tying of any divided bands of adhesion where they have any thickness, and do not readily break down before the finger.—The tying of the stalk of the tumour, as I advise, will I think, generally provide against hemorrhage from it, care being taken to leave the end of the pedicle out of the wound. Hemorrhage may kill either by the exhaustion immediately induced, or by the peritonitis it kindles.

"*c.* Acute peritonitis in a more or less severe form is a most frequent occurrence after extirpation. Its origin we may trace to the natural

effort of the system to close the wounds made in the tissues in the operation, by effusion of plastic lymph. Every precaution is to be taken against the advance of this inflammation, and its treatment must be based on the ordinary principles. Some of the cases given exhibit this casualty, its course, and the treatment adopted.

"d. Peritonitis of a low or typhoid type appears later than the preceding conditions; and is seen when any of the cut tissues put on an unhealthy appearance, and when probably some morbid excretions get into the blood."

We have thus endeavoured to give our readers a knowledge of the contents of Mr. Browne's valuable volume. We have omitted to notice some of the lectures in which there is little or nothing original, and we have dwelt more fully upon those which appeared to us more excellent. We have also preferred allowing the author to speak for himself rather than attempt an abstract of his views in our own words, for which we are sure our readers will thank us. We need not repeat that we think this a valuable contribution to our library, for it was one much needed, but we will add that the style is pleasant and readable, and the book printed and gotten up in a most creditable manner. We trust that before long, Mr. Brown may have more to tell us on these and other subjects.

*Case of spontaneous premature Delivery thirty-six hours after the apparent death of the Mother.* By Dr. MAYER. (Medico-Chirurgical Review, Oct. 1854.)

We place this remarkable case in this part of our volume, partly for its extraordinary nature, and partly for the light which it throws upon the problem of muscular contraction. We give the case as translated by Dr. Barnes from the original article :

1. The case related by Dr. Mayer is one of remarkable interest. M. H., a well-nourished woman, æt. 45, felt the movements of the child for the fourth time in the middle of November. In March last, hæmoptysis and symptoms of inflammation of the right lung came on with some severity: these increased; and on the 31st, March, apparent death came on by suffocation. For the two previous days she had ceased to feel the child. She was removed to the dead-house at 4 p.m. on the 1st April. She had remained, in the mean time, on her back in a warm room, covered up in bed, undisturbed for thirty-six hours. All the members of the family, and others, visited the deceased from time to time, and occasionally sprinkled her face with holy water. No one remarked the death-distortion of the features, or any cadaverous odour. When the undertakers were drawing on a shroud, they observed between the genitals a half round, bright-red, smooth body, which they took for a prolapsus of the womb. There was a small spot of blood with fibrine in the bed, surrounded by a larger wet place. The men had not observed the rigor mortis, nor the general loss of heat, nor any cadaverous odour. Early on the 2d April, a few hours before the time for interment, the men thought to examine the swelling they had seen the day before. Great was their astonishment to find, between the thighs of the corpse, a new-born female child, dead,

and connected with the mother by the umbilical cord. Dr. Meyer being summoned, found no absolute evidence of death, such as are commonly found fifty-four hours after death. The interment was stopped. The body examined; several old adhesions were found in the right pleura, and a pleuritic exudation in the right side of the chest; red hepatization and great congestion of right lung. The uterus was of the size of the fist, free from gaseous development, and laying in an oblique direction from right to left, so that the os uteri, widely open, was found behind the horizontal branch of the left os pubis. The placenta was still in organic relation with the fundus uteri; the inner surface of the uterus showed no trace of beginning maceration; the cervix was of a dark bluish-gray, whilst the cornua uteri and the two sides were of a bright red. The uterus' surface not covered by placenta was covered with fresh black blood-clots, which could only be removed by the scalpel. Nothing found in the body could render it probable that death had taken place, as it appeared to have done, fifty-nine hours previously.

The body of the foetus confirmed the account of the mother as to its age, which she estimated at 21 weeks.

From the remarks appended to this case by Dr. Barnes, Dr. Mayer appears to be puzzled exceedingly to account for birth under these circumstances. He strives to get over the difficulty by supposing that the patient was not actually dead, but only in a state of syncope or swoon. He even asks whether the delivery could not have been effected by the pressure of gas developed in the abdomen of the dead mother, though, not finding any gas, he is obliged to abandon this hypothesis.

Dr. Barnes says: "it seems highly probable that the sprinkling of the face with water may have excited some degree of uterine contraction, so that the labour had begun before the removal of the body to the dead-house." And he adds, "the expulsion of the foetus was effected solely by the peristaltic and diastaltic action of the uterus."

For our own part the case appears to be a remarkable confirmation of the views concerning muscular contraction which are advocated by Dr. Radcliffe, which views are "that muscle is *prevented from contracting* by the several vital and physical agencies which act as stimuli upon muscle-volition, nervous influence, blood, electricity, light, heat, and the rest, and that *contraction happens on the cessation of stimulation* by virtue of the operation of that universal principle of attraction which belongs to muscle in common with all matter; for if contraction happens on the cessation of stimulation it is easy to suppose that the uterus may contract after death, when the stimulus of life is withdrawn from the muscle, and that the child may be expelled in this way. According to this view, indeed, contraction happens in the uterine fibre, for the same reason that *rigor mortis* happens in muscular fibre generally, and the child may be said to be expelled by the mere *rigor mortis* of the uterus. At any rate this explanation is as intelligible as the other.

## BOOKS, &c., RECEIVED.

1. A Manual of Practical Therapeutics. By E. J. Waring, M.R.C.S., H.E.I.C. 12mo, 1854, pp. 755.  
In this manual the alphabetical order of the *materia medica* is made the basis of arrangement. The botanical and chemical characters of the various articles are enumerated very briefly, and then the author proceeds to give the therapeutical uses, stating that in such and such diseases the article has been found useful, and by whom. The work, in fact, is made up of the therapeutical notes of a good and thoughtful reader, and as such it will be found to be a useful companion to the practitioner who is away from his home and library, or who is constantly on the wing.
2. Transactions of the Pathological Society of London. Vol. V. 8vo, 1854, pp. 371.  
This volume is worthy of the promising Society from which it emanates, as the several notices in the preceding pages will serve to show.
3. The Book of Prescriptions, containing 2900 prescriptions, &c. By Henry Beasley. 12mo, 1854, pp. 543.  
Under each article of the *materia medica*, classed alphabetically, and concisely described, the author gives the prescriptions in which the article is generally used, with the name of the prescriber. The work will be found to be a very useful *reminder*.
4. The Watering Places of England considered with reference to their medical topography. By E. Lee, 3d edit. 12mo, 1854, pp. 280.
5. Notes on Spain, with a special account of Malaga and its Climate. By E. Lee, 12mo, 1854, pp. 144.
6. Nice and its Climate, with notice of the Coast from Marseilles to Genoa. By E. Lee, 12mo, 1854, pp. 167.
7. Outlines of Botany. By J. H. Balfour, M.D., Professor of Botany in the University of Edinburgh, 12mo, 1854, pp. 616.  
This is the most royal road to botanical lore with which we are acquainted.
8. Principles of Comparative Anatomy. By W. B. Carpenter, M.D., F.R.S., 4th edit. 8vo, 1854, pp. 770.  
This edition is in reality a new work. It is the "Comparative Anatomy" of the 3d edition of the "Principles of Physiology, General and Comparative," extended from 530 pages to 744, and with 300 illustrations instead of 130. It is truly a splendid work, which more than sustains the credit of author and publisher, and which a person ought to read if he would keep up to the knowledge of the day in this all important subject.
9. The Climate of Bath in reference to Pulmonary Consumption. By J. Tunstall, M.D., 12mo, 1854, pp. 136.
10. Lectures on the Physical Diagnosis of Diseases of the Heart and Lungs. By Herbert Davies, M.D., 2d edit. 8vo, 1854, pp. 364.
11. On the Relations of Uterine to Constitutional Disorder. By F. W. Mackensie, M.D. Part I., 8vo, 1852, pp. 117.
12. A Disquisition on Certain Parts and Properties of the Blood. By David Tod, M.R.C.S., 8vo, 1854, pp. 263.
13. On Topical Medication of the Larynx in certain diseases of the Respiratory and Vocal Organs. By Eben Watson, M.D., 8vo, 1854, pp. 183.

14. Remarks on some Fossil Impressions in the Sandstone Rock of Connecticut River. By J. C. Warren, M.D. 8vo, Boston, 1854, pp. 54.
15. Address to the Boston Society of Natural History. By J. C. Warren, M.D. 8vo, 1854, pp. 48.
16. Etherization; with surgical remarks. By J. C. Warren, M.D. 12mo, 1848, pp. 96.
17. Medico-Chirurgical Transactions. Vol. XXXVIII, 8vo, 1854, pp. 264.
- \* Several articles which enter into the formation of this volume are noticed in various parts of our present volume.
18. On the construction, organization, and general arrangement of Hospitals for the Insane. By T. S. Kirkbride, M.D. 8vo, Philadelphia, 1854, pp. 80.
19. Practical Observations on Mental and Nervous Disorders. By A. B. Maddock, M.D. 8vo, 1854, pp. 236.
20. Pathological and Surgical Observations; including an Essay on the Surgical Treatment of Hæmorrhoidal Affections, and a Course of Lectures on Syphilis. By H. Lee. 8vo, 1854, pp. 232.
21. A Manual of Pathological Anatomy. Illustrated with numerous engravings on wood. By C. H. Jones, M.D., F.R.S., and E. H. Sieveking, M.D. 12mo, 1854, pp. 788.
22. Lettsomian Lectures on Insanity. By Forbes Winslow, M.D., D.C.L. 8vo, 1854, pp. 158.
23. Prize Essays on the Moral Management of the Insane. By D. Tuke M.D. 8vo, 1854, pp. 119.
24. Report of the Commissioners in Lunacy. Official. 29 June, 1854, 8vo, pp. 328.
25. On some Diseases of Women admitting of Surgical Treatment. By J. B. Brown, F.R.C.S. 8vo, 1854, pp. 366.
26. An Enquiry into the Pathological Importance of Ulceration of the Os Uteri. By C. West, M.D. 8vo, 1854, pp. 95.

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27. A Memoir on Strangulated Hermia; from cases occurring in the London Hospital. By N. Ward, 1854, pp. 33.
28. On Uterine Polypus; its Nature, Early Detection, and Treatment. By R. Barnes, M.D. 1854, pp. 44.
29. On the Relative Merit of the two operations for Stone. By J. C. Skey. 1854, pp. 55.
30. A Discourse on Medical Botany. By Earl Stanhope. 1854, pp. 47.
31. Painless Tooth Extraction without Chloroform. By W. Blundell. 1854, pp. 64.
32. On the Enlargement of Articular Extremities of Bones in Chronic Rheumatic Arthritis. By W. Adams, F.R.C.S. 1851, pp. 16.
33. The Nature of Morbid Poisons and the Diseases to which they give rise. By R. Craik. Montreal. 1854, pp. 15.
34. The Practical Specific; a new and infallible mode of treatment for Asiatic Cholera. By Dr. F. Wilson, of Mauritius. 1854, pp. 27.
35. Practical Observations on the use and abuse of Tobacco. By J. Lizars. 1854, pp. 15.
36. A Report to the Indiana State Medical Society on Asiatic Cholera. By G. Sutton, M.D. 1854, Indianapolis, pp. 69.
37. On the Wounds of Arteries and their Treatment. By R. S. H. Butcher. 1854, pp. 24.
38. On some rare injuries of Joints, the result of accident and diseases. By R. S. H. Butcher. 1854, pp. 31.
39. First Annual Report of the Norfolk Asylum for the Insane. 1854, pp. 78.
40. Observations on the Cholera as it appeared in Cincinnati in 1849-50. By T. Carroll, M.D. 1854, Cincinnati, pp. 75.
41. The Climate of Madeira. By J. M. Bloxam. 1854, pp. 32.

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